

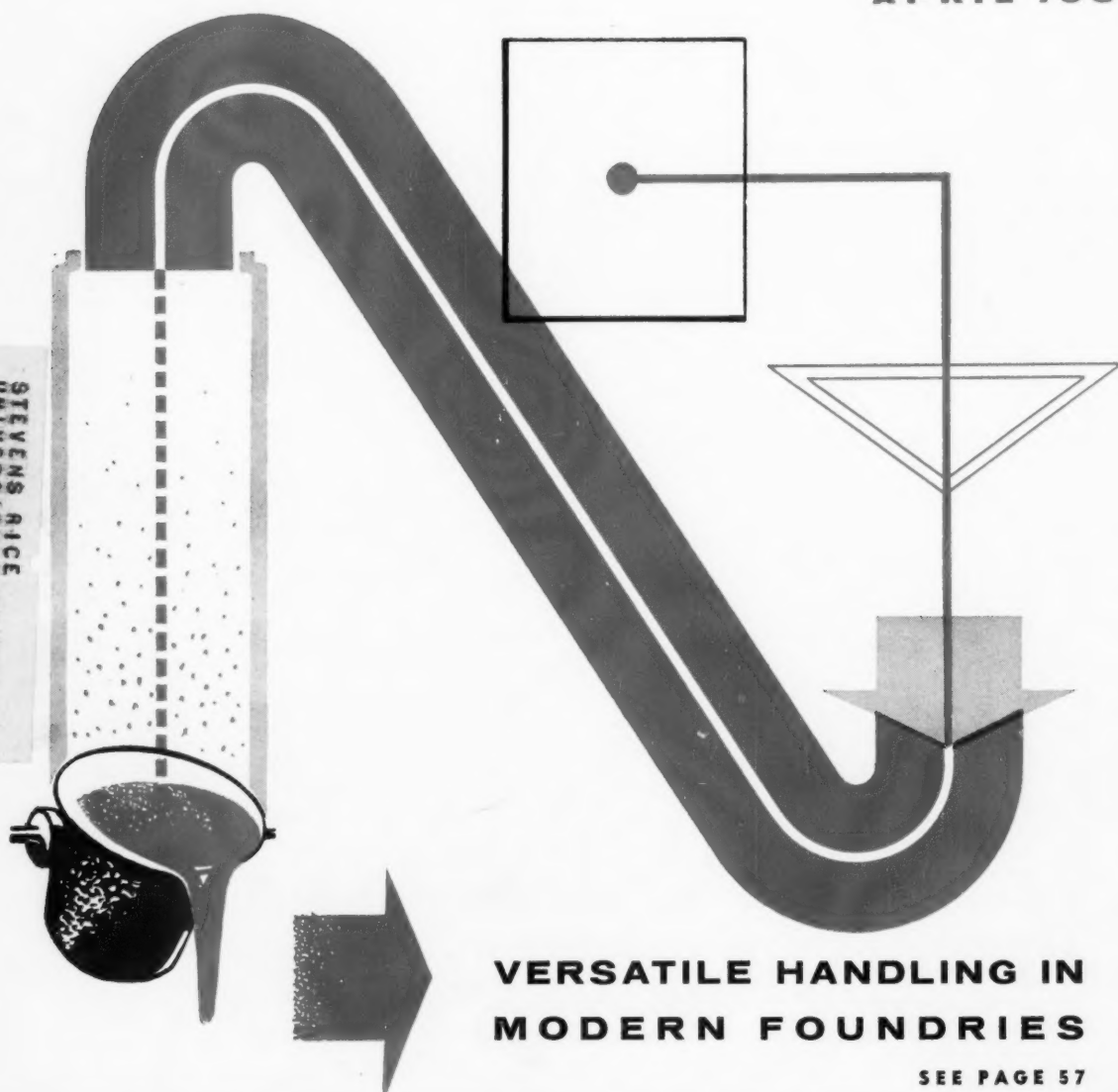
MATERIAL HANDLING

**AUTOMATIC BULK HANDLING
SYSTEMS pages 74 and 78**

FLOW

PRODUCTION • AUTOMATION • PACKAGING • SHIPPING

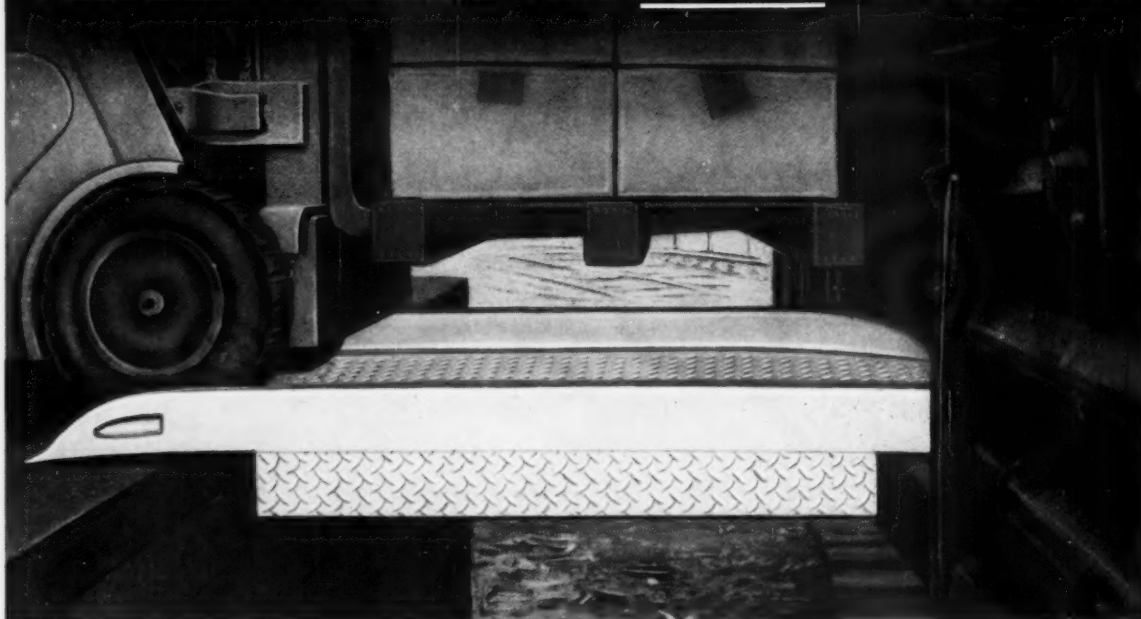
APRIL 1956



Useful New Literature Page 153

New Equipment Section Page 161

PROPERLY SPANNING THIS SMALL DIFFERENCE



will make a BIG difference in your loading costs!

You get 10 big advantages with Magliner Dock Boards

- **TIRE-SAVER SAFETY CURBS*** — prevent power truck tire damage.
- **TRIPLE STRENGTH CURB ENDS*** — double tapered for wide-angle turns.
- **RUGGED, PERMANENTLY ATTACHED UNDERSTRUCTURE** — provides automatic, positive position-lock.
- **CROWNED**, so that the edges bear snugly against dock and carrier to accommodate varying differences in height—for smooth, safe equipment crossover.
- **MAGNESIUM LIGHT, STRONG AND SAFE!** For easy one-man handling, maximum safety, economical long-life service.
- **ADDED STRENGTH THROUGH STRESS RELIEVING**—an important *extra* safety advantage.
- **BEVELED EDGES** (maximum 10° slope) — avoid hazardous load jar — eliminate equipment and load damage.
- **COMFORTABLE, ROOMY HAND GRIPS** — sealed to exclude moisture. Optional full length hand rails for added safety and convenience.
- **SPECIALLY DESIGNED, FLUSH-TYPE LIFTING HOOKS** — facilitate moving dock board by power truck over long distances (optional equipment).
- **POSITIVE, ADJUSTABLE DROP LOCK**** — the *only* practical solution for many ramp and dock board installations.

*Pat. Pend.

**Pat. No. 2659914

This company is getting *more* work output from power trucks, floor trucks and other loading equipment since they installed a lightweight, low-cost Magliner dock board! With their new Magliner, they can handle more volume on the dock—move more loads in less time—than ever before. Dock traffic now moves faster and smoother . . . loading efficiency has gone up . . . loading costs have gone down!

The new Magliner helps prevent costly accidents—insures greater safety for men, equipment and loads. Made of light, strong magnesium, it can be easily moved and positioned by one man. It will require little or no maintenance throughout its long, useful service life!

Let us prove to you that Magliner dock boards can make a big difference in *your* loading costs. Write today for the name of the Magline representative in your area, and complete information!



Canadian Factory: Magline of Canada, Ltd., Renfrew, Ontario

Circle No. 135 on Reader Service Card for more information

INTEGRATED HANDLING

Management Profit Tool

Integrated Handling—Management Profit Tool—will be the theme of the twelve technical sessions sponsored by the American Material Handling Society at the Cleveland Public Auditorium in Cleveland, Ohio, June 5, 6, and 7.

Qualified management experts will discuss management aspects of material handling.

Because you are interested in increasing production and decreasing costs, you will find these technical sessions valuable. Stiffening competition, high volume activity, increased production in existing and new facilities—these make integrated material handling a management challenge. The AMHS Technical Sessions are planned to help you meet the challenge of using one of management's profit tools—integrated handling.

The sessions include meetings on work measurement, cost analysis, automation, work simplification, plant layout, traffic management, distribution, and storage.

The technical sessions are being held in conjunction with The Material Handling Institute's Exposition of 1956. More than 150 material handling equipment manufacturers will be exhibiting new equipment and demonstrating new handling techniques and ideas in a show devoted exclusively to material handling equipment. The Exposition will be June 5 through 8.

Twelve morning technical sessions scheduled during the first three days of The Material Handling Institute's Exposition of 1956 will permit those attending the Exposition and Technical Sessions maximum flexibility in selecting sessions to suit their interests and allow ample time to visit the exhibits.



AMERICAN MATERIAL HANDLING SOCIETY

Technical Sessions

June 5, 6, and 7

**Cleveland Public Auditorium
Cleveland, Ohio**



held in conjunction with

**THE
MATERIAL HANDLING
INSTITUTE'S EXPOSITION
of
1956**

June 5 thru 8



Technical Session Fees:

	AMHS Member	Non- member
Cost for 1 day (2 sessions)	\$10.00	\$12.00
Cost for 3 days (6 sessions)	25.00	30.00

National AMHS Dinner, June 6, 6:30 p.m.,
Hotel Cleveland, \$7.00.

Registration card with your sessions choices and
check to cover cost of sessions (and National
AMHS Dinner) should be sent to

AMERICAN MATERIAL HANDLING SOCIETY
Technical Sessions General Committee
Box 6662, Cleveland, Ohio

A complete schedule of AMHS technical session
speakers and subjects is listed at the right.



First National

AMERICAN MATERIAL HANDLING SOCIETY

Dinner

CLEVELAND HOTEL

June 6, 6:30 p.m.

Speaker:

JOHN R. BRIGHT, *Chief Planning Engineer*
Joseph Lucas, Ltd., Birmingham, England

Past Chairman,
The Institute of Material Handling
of the United Kingdom

INSTALLATION OF OFFICERS

PRESENTATION OF NATIONAL AWARDS

Dinner Tickets: \$7.00

June 5, 9:00 a.m.

JAMES APPLE, Michigan State University

"Relationship of Plant Layout to Material Handling"

... the importance of the flow pattern and the problems involved in the implementation of the flow pattern by material handling equipment.

June 5, 10:45 a.m.

ALAN H. MOGENSEN, Work Simplification Conferences

"Work Simplification and Its Use in Material Handling"

... expert in the field of work simplification, Mr. Mogenson will discuss management aspects of work simplification in the field of material control and handling.

June 6, 9:00 a.m.

FRED V. GARDNER, Fred V. Gardner Associates

"Analyzing Material Handling Costs"

... variable budgets and dynamic costing and their relationship to profit management with special emphasis on material handling.

June 6, 10:45 a.m.

GROVER BARKDOLL, Methods Engineering Council

"Operation Analysis in Materials Handling"

... logical and systematic procedures for determining whether a mechanical means for handling material is justifiable costwise.

June 7, 9:00 a.m.

JOSEPH W. SHIMP, Marinette Paper Company

"Paper Mill Management Looks at Material Handling"

... an industry using bulky raw material, large volume, and relatively low cost items—the impact of material handling on quantity, quality, cost and personnel.

June 7, 10:45 a.m.

H. B. MAYNARD, President, Methods Engineering Council

"Work Measurement and Material Handling"

... a specialist in methods engineering and management techniques discusses methods-time measurement as related to material handling.

June 5, 9:00 a.m.

E. ALBERT OVENS, Vice President, Academy of Advanced Traffic

"Traffic Management and Material Handling"

... the close relationship between traffic management and material handling and management considerations in coordinating the two service operations will be the theme of Mr. Ovens' paper.

June 5, 10:45 a.m.

GEORGE RAYMOND, JR. President, The Material Handling Institute

"Top Management and Material Handling"

... Management aspects of integrated material handling systems and the relationship of material handling to overall management.

June 6, 9:00 a.m.

ANDREW J. BRIGGS, Head, Material Handling and Warehousing Branch, Department of the Navy, Bureau of Supplies and Accounts

"A Simplified Approach to Stock Positioning and Space Control"

... the application of four simple steps to determine stock position plus considerations to promote the proper equipment selection and control of operating space.

June 6, 10:45 a.m.

WILBUR D. WARNER, Materials Handling Manager, Sears, Roebuck and Company

"Distribution in Relationship to Material Handling"

... a case history report of centralized warehousing and distribution of merchandise as practiced by Sears, Roebuck and Company.

June 7, 9:00 a.m.

JAMES R. BRIGHT, Harvard University

"Managerial Problems Arising Out of Automation"

... significant findings from 15 months research in 12 different firms employing highly automatic systems — motives and benefits of automation, disadvantages, problems of design, installation and operation.

June 7, 10:45 a.m.

DR. LILLIAN GILBRETH, Knapp Visiting Professor

... "the world's greatest woman engineer" discussing management responsibilities in education and training.

Yes
I WANT TO
REGISTER FOR . . .

Technical sessions sponsored by the American Material Handling Society at The Cleveland Public Auditorium in Cleveland, Ohio, June 5, 6, and 7 — during The Material Handling Institute's Exposition of 1956. I have indicated at the right the sessions I want to attend and whether I plan to attend the AMHS National Dinner, June 6, at 6:30 p.m. in the Hotel Cleveland.

9:00 A.M., Tuesday, June 5
☐ JAMES APPLE, Michigan State University
"Relationship of Plant Layout to Material Handling"

10:45 A.M., Tuesday, June 5
☐ E. ALBERT OVENS, Academy of Advanced Traffic
"Traffic Management and Material Handling"

9:00 A.M., Wednesday, June 6
☐ ALAN H. MOGENSEN, Work Simplification Conferences
"Work Simplification and Its Use in Material Handling"

10:45 A.M., Wednesday, June 6
☐ ANDREW J. BRIGGS, Head of Material Handling and Warehousing Branch, Navy Bureau of Supply and Accounts
"A Simplified Approach to Stock Positioning and Space Control"

10:45 A.M., Wednesday, June 6
☐ W. D. WARNER, M. H. Mgr., Sears, Roebuck and Co.
"Distribution in Relationship to Material Handling"

9:00 A.M., Thursday, June 7
☐ GROVER BARKDOLL, Methods Engineering Council
"Operation Analysis in Material Handling"

10:45 A.M., Thursday, June 7
☐ JOSEPH W. SHIMP, Marinette Paper Company
"Paper Mill Management Looks at Material Handling"

10:45 A.M., Thursday, June 7
☐ H. B. MAYNARD, Methods Engineering Council
"Work Measurement and Material Handling"

last name	initials	company name
street		
city	zone	state
<input type="checkbox"/> I am a member of AMHS		

indicated is check for \$.....
payable to AMHS Technical Sessions General Committee
(over)

☐ AMHS National Dinner
June 6, 1956, 6:30 p.m.
Cleveland Hotel

Enclose this registration card and send, together with your check, to

**AMERICAN MATERIAL HANDLING SOCIETY
Technical Sessions General Committee
Box 6662, Cleveland, Ohio**

Hotel Information

To assure adequate hotel space for everyone attending the Technical Sessions and the Exposition, all reservations are being handled by the Cleveland Convention Housing Bureau.

Requests for reservations should include first, second, and third choices of hotels; type of room desired; and arrival time. Cleveland hotels listed by the Housing Bureau are:

Alcazar Hotel	Park Lane Villa
Auditorium Hotel	Quad Hall
Bolton Square Hotel	St. Regis Hotel
Carter Hotel	Sovereign Hotel
Cleveland Hotel	Statler Hotel
Commodore Hotel	Stockbridge Hotel
Hollenden Hotel	Tudor Arms
Manger Hotel	Wade Park Manor
Olmsted Hotel	Westlake Hotel

Address requests for reservations to:

Mrs. LOUISE D. PERKINS, *Director*
Cleveland Housing Bureau
511 Terminal Tower
Cleveland 13, Ohio



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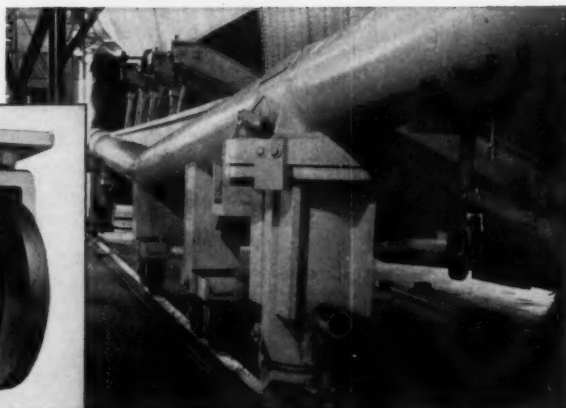
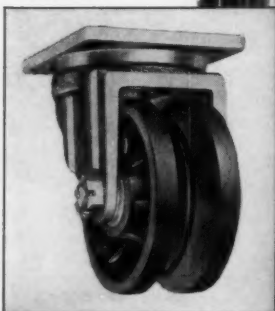
APRIL, 1956

MATERIALS-HANDLING NEWS

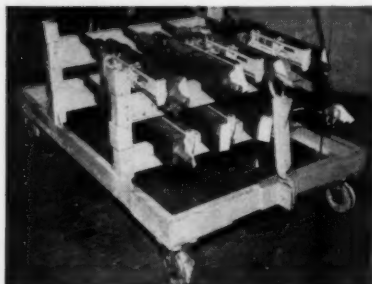
★ Panel Discussions by Bassick, World's Largest Manufacturer of Casters and Floor Protection Equipment ★

Industry gets mobility plus control with Bassick grooved wheel casters

Bassick super heavy duty 10" grooved wheel caster.



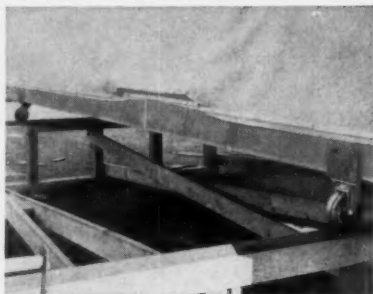
Aircraft industries put Bassick grooved wheel casters to work in every stage of production. Here, on a giant mating cradle, they carry the hull of an 80-ton Navy transport plane to mate with its nose and tail sections. Grooved wheels on inverted angle iron tracks provide the positive control needed.



Aircraft fire power also rides Bassick grooved wheels to the assembly point. Note here that they operate just as well off tracks as on. This gives you greater flexibility in designing your materials-handling system. The heaviest bombers (below), as well as parts, are handled by precision, super heavy duty Bassick grooved wheel casters with Timken axle bearings, indestructible horn, 1" heavy duty steel axles.



Other products on grooved wheels

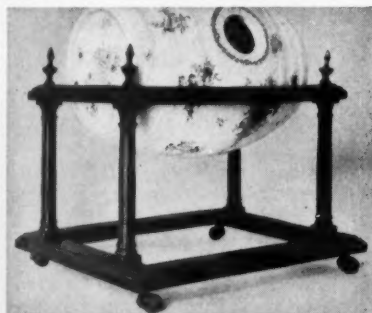


Prefab house sections roll into place as still another industry finds use for Bassick grooved wheel casters. Providing positive control and easy mobility, they're production line favorites in the automotive, aircraft, manufacturing and many other industries.



Nike gets send-off as crew scrambles to prepare these ground-to-air missiles for firing test. Members of the Nike crew not shown, but important here are Bassick grooved wheel casters—also used on other guided missiles.

Ben Franklin's casters



Franklin's Punch Keg, the ornate piece of crockery above, was a gift he received in France about 1780. But the caster-equipped stand that holds it he built himself. If Ben had waited, we're sure that the Bassick Distributor in Philadelphia would have helped him pick the best casters for the job.

See your Bassick distributor . . .

Here are two of many ways he can help you: He's up on the latest developments in materials-handling with casters. And he'll keep needed units flowing—from his stockrooms—into your plant.



30% production costs reducible

Cost analysts report that materials-handling—which comes to about 30% of production costs—is the one cost area most capable of reduction. A good way for you to start paring costs is shown above. That production line of automobile axles moves safely and easily on Bassick Casters.



THE BASSICK COMPANY
Bridgeport 2, Conn.
In Canada: Belleville, Ont.



MAKING MORE KINDS OF CASTERS... MAKING CASTERS DO MORE

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FLOW

BANTAM®

self-propelled

6-ton



How to do all your yard lifting and handling jobs with ONE 1-man machine!

Here's the machine that works wonders in cutting yard costs and time! The new BANTAM Self-Propelled is master of all yard jobs . . . moving with the work *wherever* it may be. One-man operated with one-lever forward-reverse travel and tight-spot maneuvering ease, BANTAM moves in and out of plants—transporting parts and finished products . . . loads cars, trucks . . . sorts . . . stacks and stockpiles . . . handles bulk materials . . . erects.

You name it; if it's a yard handling job, the BANTAM Self-Propelled will do it in less time, at less cost, every time . . . *everywhere*. Lifts up to 12,000 lb. . .

loads up to 100 cu. yd. per hour.

BANTAM at its exceptionally low price has all the job-speeding and safety-making features: all-vision, all-weather cab; simple mechanical controls; independent travel and steering; power up and power controlled lowering for "inching" loads safely, precisely; 360° full-circle swing; works with 9 easy-change attachments!

You stand to profit greatly by getting the full story on the versatile BANTAM Self-Propelled. Mail coupon!

*As shown complete with crane boom, outrigger, hook block (less boom safety stops) f.o.b., Waverly, Iowa. Price subject to change without notice.

COMPLETE
AT THIS
VERY LOW PRICE

\$11,545*



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World's Largest Producer of Truck Cranes and Excavators

NEW . . . Picture and Fact Bulletin
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HYSTER® QN-20 MONOMAST LIFT TRUCK

Offers Greatest Visibility of Any 1,000-2,000 lb. Lift Truck

HYSTER'S NEW QN-20 MONOMAST LIFT TRUCK can be driven faster, worked harder because operator can better see what he is doing and can work with more confidence in greater safety . . . important factors in amount of work done per day!

● No other 1,000-2,000 lb. lift truck today offers this all-around panoramic visibility! Operator does not have to crane his neck to see where fork tips are going, and in backing up, functional body design permits unobstructed view of floor.

Hyster standard job-attachments, including hydraulic, can be used with "MONOMAST" lift trucks.

SEE THE DIFFERENCE

Ask your Hyster Dealer for full information. He is listed in the yellow section of your phone book, under "Truck—Industrial", or write direct.



**VISIT BOOTHS
1116 and 1422**

HYSTER COMPANY

FOUR FACTORIES: Portland, Oregon; Danville, Illinois; Peoria, Illinois; Nijmegen, The Netherlands
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Patents Pending

MATERIALS HANDLING TRUCKS from 1,000 to 30,000 lb. capacity "MONOMAST" also available on Hyster UC-30 (3,000 lbs.), YC-40 (4,000 lbs.)

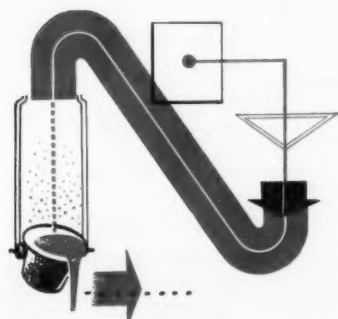
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1031 Myers Street Danville, Illinois
Hyster N.V. Nijmegen, The Netherlands

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VOL. II, NO. 7

FLOW

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THE COVER

This month's cover depicts the charging of a cupola in a foundry and the pouring operation which follows—typical areas in which the utilization of up-to-date handling techniques has effected a high degree of efficiency.

SUBSCRIPTION RATES

United States and possessions—\$5.00 per year, \$5.00 for 2 years. Subscriptions in the United Kingdom: £2.5 per annum, payable in Sterling to our London Office. Foreign—\$7.00 per year.
Canada—\$6.00 per year.
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APRIL, 1956

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introducing...



a NEW approach to increased materials handling efficiency

* Industrial Mobile Phone

THE radiotelephone specifically designed for low power industrial service. Installed on materials handling trucks, interplant messenger vehicles, and transportation units, the IMP eliminates "down time" by better control and more versatile operation. Turns every trip into a payload haul.



The IMP features:

- **INTERCHANGEABLE MOBILE OR BASE STATION** — No expensive base station to buy. Any unit can serve as a base transmitter.
- **SMALL SIZE** — The compact rugged IMP measures 12 1/2" x 8 1/4" x 5 1/4".
- **LOW BATTERY DRAIN** — No changeover necessary to operate the IMP on 6 or 12 volt batteries or 117 volt AC.
- **PUBLIC ADDRESS** — The IMP can serve as a mobile public address system capable of being heard over plant noises.
- **LOW INSTALLATION COST** — Any plant electrician can install the IMP, and no tune-up is required after installation. Units can be replaced in 30 seconds.
- **LOW COST** — Complete price is just \$328, f.o.b. Palo Alto.



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FLOW

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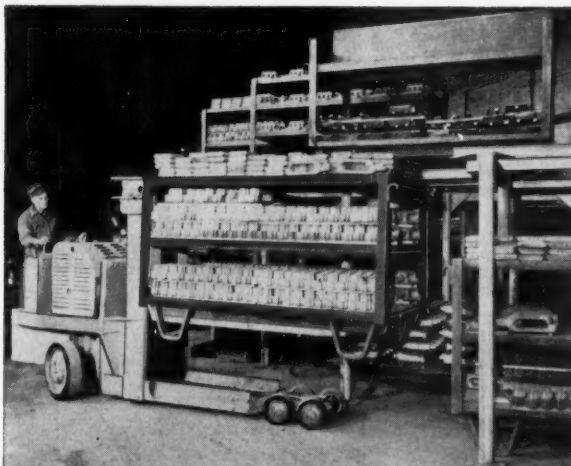
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FLOW DIRECTORY
FLOW'S MATERIAL HANDLING ILLUSTRATED
PRECISION METAL MOLDING
APPLIED HYDRAULICS
INDUSTRY AND WELDING
WELDING ILLUSTRATED
OCCUPATIONAL HAZARDS
COMMERCIAL REFRIGERATION
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FLOW



SAVE SPACE—Using ELPAR high lift trucks, a foundry devised a special core handling system that doubled effective use of their storage area. Trucks speedily high tier racks of fragile cores without damaging them.



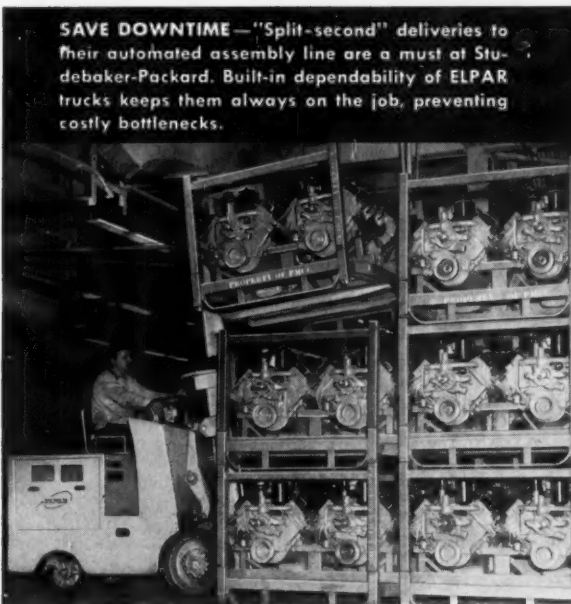
SAVE STOCK—Using ELPAR roll clamp trucks, corrugated box maker has reduced paper damage to almost zero. Unique ELPAR clamp handles rolls from 51" in diameter down to small butt rolls without manual adjustment.

SAVE

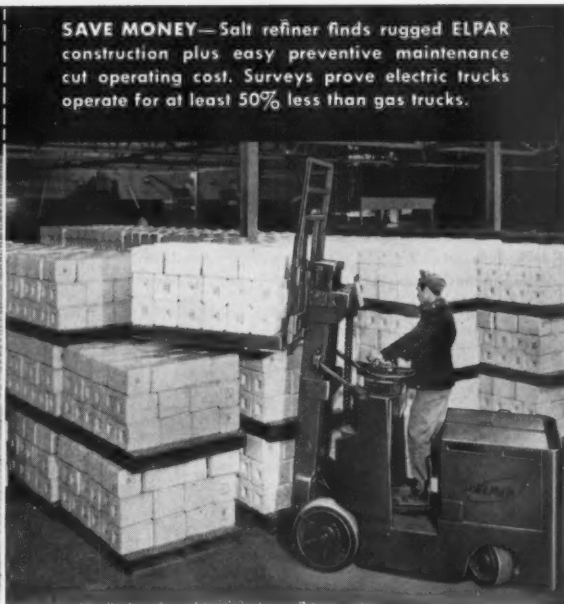
WITH **ELPAR** TRUCKS

66% of the 75 largest U.S. manufacturers use ELPAR trucks because their savings soon repay the truck investment. You can save, too! Write for complete ELPAR catalog.

THE ELWELL-PARKER ELECTRIC CO.
4234 St. Clair Avenue • Cleveland 3, Ohio



SAVE DOWNTIME—"Split-second" deliveries to their automated assembly line are a must at Studebaker-Packard. Built-in dependability of ELPAR trucks keeps them always on the job, preventing costly bottlenecks.



SAVE MONEY—Salt refiner finds rugged ELPAR construction plus easy preventive maintenance cut operating cost. Surveys prove electric trucks operate for at least 50% less than gas trucks.

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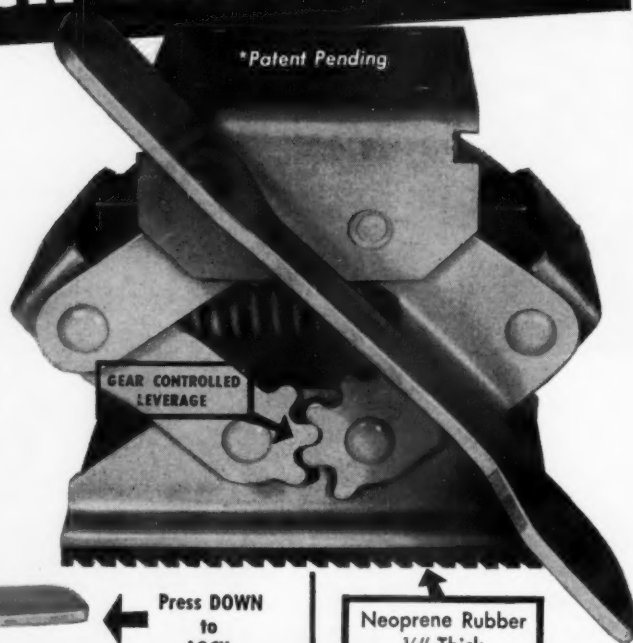
another First from PRESTO!

THE NEW PRESTO* 5-in-1 TRUCK FLOOR LOCK

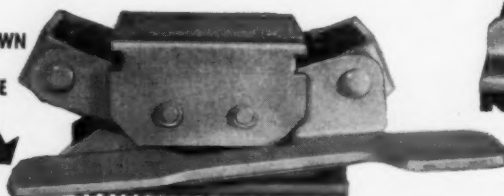


The only truck floor lock of its kind available. It's new, it's different, it's revolutionary. Makes all other truck floor locks obsolete.

Use the new PRESTO 5-in-1 Truck Floor Lock with 3", 4", 5", 6" and 8" casters. One PRESTO Truck Floor Lock fits five sizes. Ideal for use on: Scaffolds, portable benches, tool stands, floor trucks, lifters, work stands, portable scales, portable conveyors, engine stands, etc.



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to
RELEASE

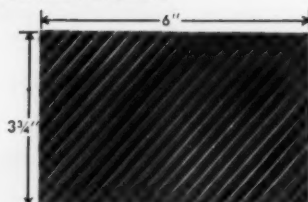


Press DOWN
to
LOCK

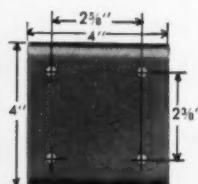
Neoprene Rubber
1/4" Thick



Adapter Bracket
for use with 8" casters



Traction Plate
Large gripping surface
made of moulded neoprene
rubber



Mounting Plate
Hole centers drilled
and tapped 3/8"-16

**Check These Features
and write for a
new LOW, LOW PRICE!**

- ☐ All Steel rugged construction
- ☐ Gear controlled leverage
- ☐ Pressure dual spring loaded
- ☐ Ample ground clearance
- ☐ On and Off pedal easily accessible
- ☐ Easy to apply, easy to release
- ☐ Large friction pad — moulded neoprene rubber
- ☐ Mounting plate drilled and tapped — can be welded
- ☐ Mounting height can vary
- ☐ Light in weight, strong, durable, trouble-free
- ☐ Will work where others fail

SPECIFICATIONS

Lock, collapsed	3 3/4"
Lock, fully extended	7 1/2"
Lock, fully extended, with adapter	11"
Minimum floor clearance	2" with 4" caster

Floor clearance is much greater with larger casters. Mounting Height — No fixed mounting height required. Mounting height can vary substantially. This floor lock will function with all casters from 4" to 8".

WEIGHT (each)	
Without adapter	7 lbs.
With adapter	7 1/2 lbs.
Adapter is used only with 8" casters.	

Because of its all steel construction, the PRESTO Truck Floor Lock may be bolted in place or it may be welded in place.

Distributors!!

Reduce your inventories
— one floor lock fits five
size casters.



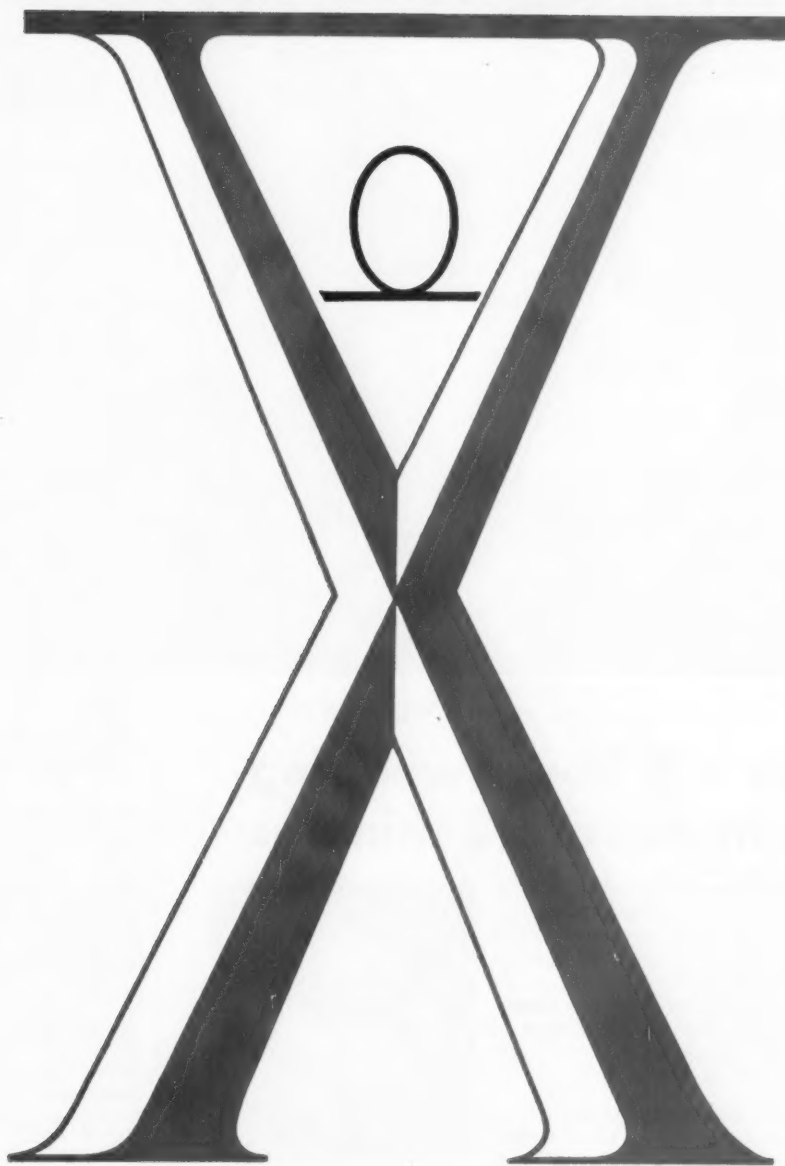
PRESTO PRODUCTS CO.

269 Armistice Blvd. • Pawtucket, R. I.
Division of Lee Engineering Company

Q U A L I T Y is our Most Important Product

Circle No. 127 on Reader Service Card for more information

CLARKLIFT



A CLASSIC ADDITION...

to Clark's complete line. *Clarklift!* A completely new fork truck that will surpass any present standards of performance. Watch for it at the Materials Handling Institute Exposition, June 5 through 8, Cleveland, Ohio.

Industrial Truck Division, Clark Equipment Company, Battle Creek 13, Mich.



Circle No. 49 on Reader Service Card for more information



New 28" cost-saving sweeper for congested areas...

does a 3 hour sweeping job in about 24 minutes

Sweeping 3 to 7 times faster than is possible by hand, this new TENNANT Model 50 Sweeper offers an important new advantage—it brings low-cost mechanized sweeping to both the congested and open areas.

Its special compact design and easy maneuverability, for example, make it possible to do a 3-hour handsweeping job in 24 minutes as a rule... and do far cleaner work.

Pays for itself in a few months

As it travels down an aisle at 1½ to 8 mph, the sweeper's powerful vacuum-enclosed brush cleans a 28" path (40" with sidebrush). Does an excellent job; removes dust and dirt push-brooms can't reach. *WRITE for details; sweeper is MODERATELY PRICED.*



SPACE-SAVING DESIGN saves time in congested traffic areas. Note efficient flush-with-wall operation.

The "Model 50" has auto-type controls, handles easily. Picks up chips, sand, debris, spillage, dust, and dirt.

G. H. TENNANT Co., 2576 N. 2nd St., Minneapolis 11, Minn.



**POWER
SWEEPERS**

SPECIALIZED MAINTENANCE EQUIPMENT

POWER SWEEPERS • FLOOR MACHINES • SCARIFIERS • ROOF SCRAPERS • CONCRETE ROUTERS

Circle No. 192 on Reader Service Card for more information

LETTERS

TO THE

EDITORS

There Must Be An Easier Way To FLOW:

I would appreciate the benefit of your experience in unloading and loading rail cars with crude rubber bales.

These bales weigh 250 pounds each and are generally rectangular but of varying shapes. Our present methods include a fork truck with a flat scoop that rams beneath the bales, picking up as many as happen to stay engaged on the scoop. The fork lift then transports bales to the storage location where they are removed manually by two persons for each bale. The stacking operation consists of handling each bale separately by these two men. At every height of two bales, wooden dunnage is inserted to provide a level flooring for the next height of two bales until the desired storage height is reached. This single-piece handling is an expensive operation.

If a unit load could be developed, or if pallet boxes could be constructed, the handling costs in unloading, storing and loading rubber would be reduced considerably.

J. E. Hickey
Traffic Manager
Naval Supply Depot
Mechanicsburg, Pa.

FLOW has given a number of ideas to reader Hickey but will welcome any thoughts that might be passed along.

Still Popular Feature Here and Abroad

I am sending you today a remittance of \$7.00 U.S., for an annual subscription to FLOW.

I shall also feel obliged if you will let me have a reprint of the articles on "Measurement of Fork Truck Efficiency", by Forest W.

FLOW

success story



PHOTO COURTESY THE MERCURY MANUFACTURING COMPANY, CHICAGO, ILLINOIS

Modern powered equipment cuts unloading time in half—saves traffic for South American port

Callao, Peru—largest port in South America—was in trouble. Facilities for unloading, moving and warehousing ships' cargoes were outmoded and inadequate. Ships with grain and general cargo were delayed five to ten days unloading.

At dockside, a narrow gauge railway was the principal means of moving cargo into warehouses. But because of the inflexibility of this system of handling, cargo was dumped at a central point in the warehouse to be removed later to assigned storage area. Moreover, unloading operations were frequently halted while stevedores waited for the switch engine to return empty freight cars.

A serious reduction in port traffic might have resulted had not the Peruvian Government acted. A pallet rack

system was installed and a number of Chrysler-powered Mercury towing tractors were brought in to replace the old switch engine and single gauge track.

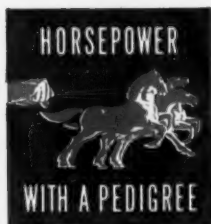
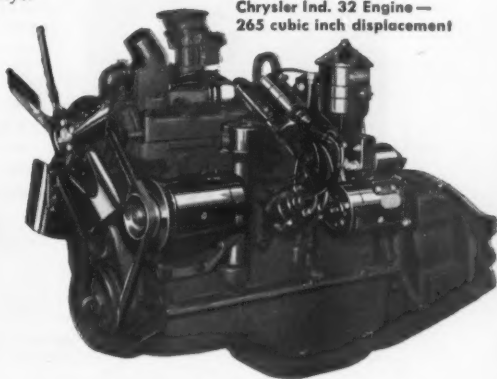
Now Mercury "Huskies" and "Super Huskies" move palletized cargo from dock to allotted space in warehouses, pick up a load of empty trailers and return to the dock. Unloading time has been cut in half. The addition of Mercury towing tractors and other new unloading and warehousing equipment has made Callao today one of the world's most modern ports and—best of all—ships now are unloaded in one or two days.

This kind of "success story" requires equipment powered with dependable, high-speed engines. Mercury has it in the Chrysler Ind. 32, 265 cubic inch displacement en-

gine powering both the "Huskie" and "Super Huskie." A Chrysler-supplied four-speed transmission and power take-off completes the power package.

Install Chrysler Industrial Power and get all the performance your equipment can deliver. Remember, Chrysler Industrial Engines can be supplied for operation with gasoline, natural or L-P gas. For information or catalog, see a Chrysler Industrial Engine Dealer or write: Dept. 141, Industrial Engine Division, Chrysler Corporation, Trenton, Michigan.

Chrysler Ind. 32 Engine—
265 cubic inch displacement



Chrysler

INDUSTRIAL ENGINES

Industrial Engine Division • Chrysler Corporation

Circle No. 48 on Reader Service Card for more information

AUTOETTE
World's Lowest-Cost Transportation

**ELECTRIC
PICKUP
TRUCKS**

**LOWEST
COST
MATERIALS
HANDLING!**

AUTOETTE
Manufacturer of the
world-famous Golfmobile
and Cruise About
affiliate of
WAYNE

**THE WORLD'S MOST ECONOMICAL
TRANSPORTATION...** Autoette
electric 1/4 ton and 1/2 ton trucks.
Ideal for all lightweight materials
handling. Rugged, no complicated
parts, easy to service, recharge
overnight. No fumes, use indoors or
out. Used by hundreds of industries,
coast to coast. Ask for free
demonstration.

Now manufactured by Wayne
Manufacturing Co., world's largest
producers of power sweepers for
cities and industries.

AUTOETTE, Dept. F-4
1201 E. Lexington, Pomona, Calif.
Please send me information on Autoette
Pickup Trucks ☐ Golfmobiles ☐ Cruise
Abouts ☐ for transport of executive
personnel.
☐ I am interested in an exclusive dealer-
ship.

Firm _____
Address _____
City _____ Zone _____ State _____
By _____ Title _____

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LETTERS

Continued

Soper. (FLOW August and September, 1955).

Daniel Dumont
Consulting Engineer
Brussels, Belgium

The supply of these reprints is rapidly diminishing, but they are still available on a first-come-first-serve basis.

Handling Paper "On Edge"?

To FLOW:

Please give us the name or names of some manufacturers who make conveyors that handle sheets of paper and cards in a communication set-up.

Conveyors would be about two (2) inches in width, and some would have to run in opposite directions.

W. J. Borne
Dade Metal Fabrications, Inc.
Hialeah, Florida

Although FLOW has made a number of suggestions on such sources, any further ideas will be welcomed.

Who Makes Car-Moving Scooter?

The enclosed picture (returned to reader) shows a motor-driven, scooter-type (railroad) car mover. We have tried to locate a manufacturer of this item, with no results, and I am wondering if you can help us.

Ben Locke
The Gus Holman Co., Inc.
Sheboygan, Wis.

The car-moving device has a single-wheel to ride on one rail, is driven by an internal combustion engine. It incorporates a jack which bears on a corner of the car. FLOW and reader Locke will both appreciate knowing the source of the equipment.

Reprints Coming on Belt Conveyor Design Data

To FLOW:

The writer would appreciate a reproduction of your article on

ERIEZ INTRODUCES NEW TYPE ELECTRO-PERMANENT MAGNETIC HI-VI VIBRATORY EQUIPMENT

**No Rectification . . .
Superior Performance . . .
Lower Operating Costs with
Exclusive "Double Action" Drive**



No other vibratory equipment like this! Eriez Magnetic "know-how" brings you the first complete line of Electro-PERMANENT Magnetic Unit (Bin) Vibrators and Feeders operating at 3600 CPM directly off an AC line. Just plug or wire them in . . . NO RECTIFIER NEEDED!

Look at these additional HI-VI advantages

LOWER MAINTENANCE and OPERATING COSTS . . . LONGER, TROUBLE-FREE SERVICE . . . VERSATILE UNITS PROVIDE BROADER OPERATING RANGES WITH LESS POWER CONSUMPTION . . . HI-VI UNITS ARE COMPACT, LIGHTWEIGHT, EASILY INSTALLED, NEED NO REALIGNING . . . NO SLIDING OR ROTATING PARTS TO WEAR . . . No lubricants needed . . . Noise factor is reduced, working conditions improved . . . New type "double action" drive provides higher operating efficiency with low operating cost . . . Many HI-VI models are totally enclosed, weather-and dust-resistant.



Pat. Pending

HI-VI Vibratory Feeders . . . for accurate, controlled feed

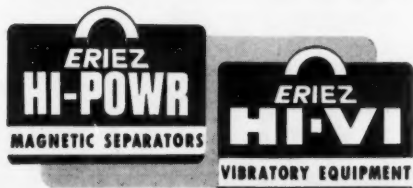
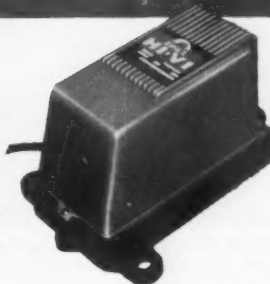
Vibramatically convey, spread, agitate, separate, blend, dry, cool and mix bulk materials economically in little space and at most any desired speed . . . from ounces to tons per hour! For all types of materials: dry, hot, dusty, lumpy, abrasive, etc. Faster processing at greatly reduced operating costs.

HI-VI's operating principle

The Eriez HI-VI drive system, the heart of which is a lifetime powered Alnico V Permanent Magnet, in effect replaces rectifiers by providing an inherent magnetic rectification system which provides more operating forces, no lost efficiency; all energy (two-way push-pull vibrating action) goes for productive performance.

HI-VI Unit (bin) Vibrators . . . keep materials flowing freely

Versatile units are AUTOMATICALLY SELF-ADJUSTED according to load requirements, eliminate pile-ups, sticking, bridging and arching of bulk materials flowing from or through containers. Exclusive HI-VI double diaphragming (kneading) action keeps materials pouring smoothly and evenly through hoppers, bins, chutes, etc.



HI-VI is the newest product of the Eriez Manufacturing Company, pioneer producer of permanent-powered magnetic separators for industry. Eriez HI-POWR Magnets are used to purify, retrieve and separate in processing lines of all types, and are available in a wide range of styles and sizes.

ERIEZ MANUFACTURING COMPANY

114D MAGNET DR., ERIE, PA.

Please send information on the new HI-VI vibratory equipment to:

NAME

COMPANY

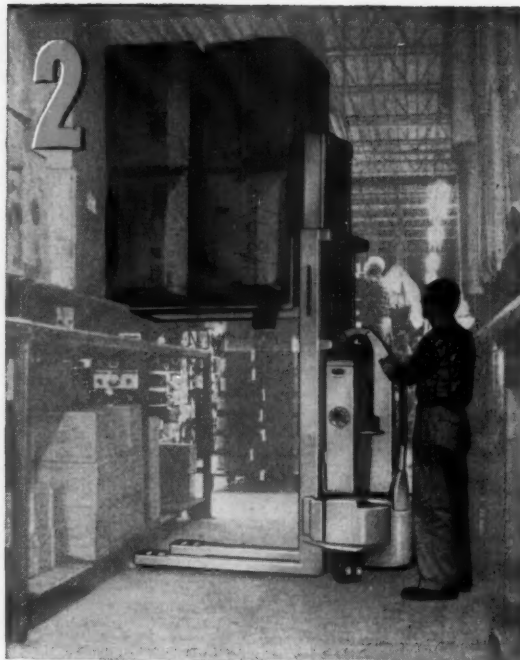
ADDRESS

CITY..... STATE.....

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SPACE MASTER — Model "MN". Operates in 75" aisles (48" long x 40" wide loads). Capacities to 3000 lbs. Lift heights to 158".

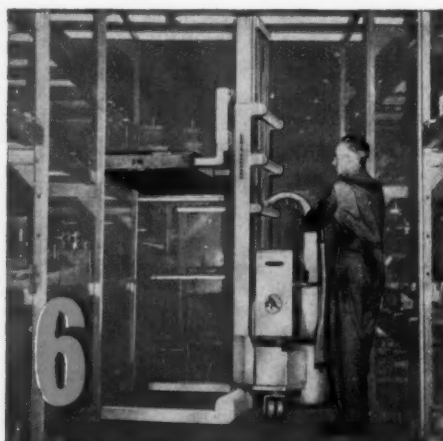


AISLE COMPRESSOR — Platform Type JackStacker. Operates in 69" aisles (48" long x 40" wide loads). Capacities to 6000 lbs. Lift heights to 150".

6 ways to narrow aisles.



AISLE ECONOMIZER — Riding Type HydraFork. Operates in 82½" aisles (48" long x 40" wide loads). Capacities to 3000 lbs. Lift heights to 172".



HIGH STACKER — Straddle Type JackStacker. Operates in 72" aisles (48" long x 40" wide loads). Capacities to 6000 lbs. Lift heights to over 200".



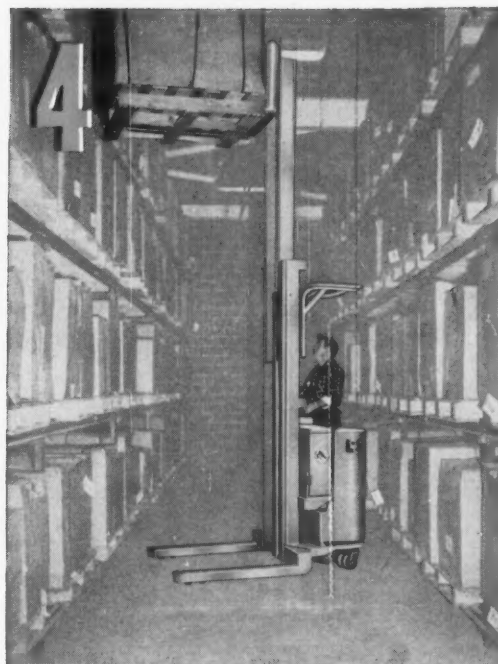
LEWIS-SHEPARD®

134 WALNUT STREET, WATERTOWN 72, MASS.

The Master Line



NARROW-AISLE WALKIE — Open-Faced Pallet Type Jack-Stacker. Operates in 69" aisles (48" x 40" long loads). Capacities to 6000 lbs. Lift heights to 125".



COMPACT ANGLER — Model "M". Operates in 77" aisles (48" long x 40" wide loads). Capacities to 4000 lbs. Lift heights to over 200".

...expand your storage or production areas

Each of the space-saving, money-saving Lewis-Shepard electric trucks shown here can operate easily in 7-foot aisles, or less

Want to put unused storage space to use? Let the rugged, smooth-operating Lewis-Shepard electrics illustrated here help you. Differing in detail, nevertheless they all have *one thing* in common . . . aisle-saving compactness. By reducing existing aisles, Lewis-Shepard equipment has created thousands of extra cubic feet of storage area without laying a brick.

Beside compact construction, other practical advantages common to L-S trucks include . . . lifetime

lubrication, which ends forever the need for greasing; roller masts, eliminating friction wear; gear drive, which means no chains to break — no clutch to wear; magnetic controls, to provide instant speed selection and braking.

Lewis-Shepard, manufacturer of the most complete line of industrial trucks, anywhere, offers you power-tiering equipment in either rider, or walkie types — each a leader in its special field.

Say Yes . . . tell us you would like to learn more about how to uncover hidden profits by *recovering* unused aisle space. Clip and mail coupon for catalogs on trucks shown here.

**IN CLEVELAND,
JUNE 5-8**
Materials Handling Exposition . . .
see L-S in action at
Booths 1012, 1014, 327, 228

I'd like to know more about how I can uncover hidden profits by recovering unused aisle space. Please send me catalogs on L-S Narrow-Aisle Trucks.

NAME

COMPANY

ADDRESS

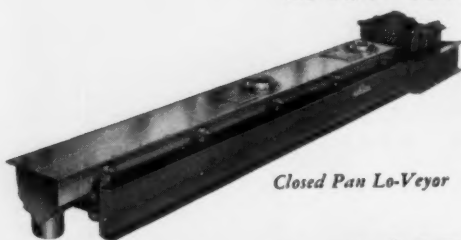
Circle No. 128 on Reader Service Card for more information



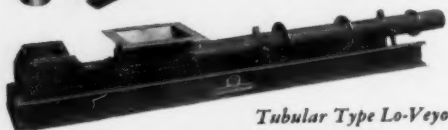
Ajax Lo-Veyor integrated into sand handling system of large automotive foundry.



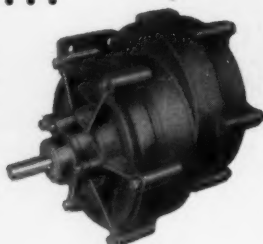
LO-VEYORS convey bulk materials at low cost . . .



Closed Pan Lo-Veyor



Tubular Type Lo-Veyor



Ajax reciprocating drive, the heart of Ajax Vibrating Conveyors.

FAST: Ajax Lo-Veyors take the place of shovels, wheelbarrows and other slow-moving bulk materials handling methods. They handle large tonnage in sizes from 5 microns up to large lumps and materials of various moisture contents.

CAPACITIES: Made in lengths from 3 ft. up,—they are used as feeders and for long runs with units in series. They are often integrated and synchronized with production lines between departments and machines.

LOW HEAD ROOM: Space saving installations, under floors and overhead, are made easy by low height averaging less than 14" except at point where shaker is located.

CUT MAINTENANCE COST: All idler rollers, head and tail pulleys eliminated. No lubrication problem. Operates satisfactorily in severe conditions of dust and abrasive laden air.

ENGINEERING SERVICE: The broad experience of Ajax engineers is available to give you the latest thinking in handling bulk materials. An outline of your problem will bring you some worthwhile answers.

AJAX FLEXIBLE COUPLING CO. INC.

WESTFIELD, N. Y.

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LETTERS

Continued

types, construction, and selection of rubber conveyor belting from FLOW magazine of March 1952.

M. H. Cody
Technical Advisor to Works Mgr.
General Steel Wares, Ltd.
Toronto, Canada

To FLOW:

We would appreciate receiving a reprint of each of the following articles appearing in FLOW:

"Types, Construction and Selection of Rubber Conveyor Belting"; March, 1952.

"Charts for Quick Selection of Belt Conveyor Shafts"; February 1956.

M. M. Piskur
Research Laboratory Library
Swift & Company
Chicago, Ill.

To FLOW:

We would like to know if it would be possible to obtain additional copies of the three articles:

1. Feb. '56—"Diagram Helps Check Charging Equipment"
2. Feb. '56—"Charts for Quick Selection of Belt Conveyor Shafts"
3. March '52—"Selection of Rubber Conveyor Belting"

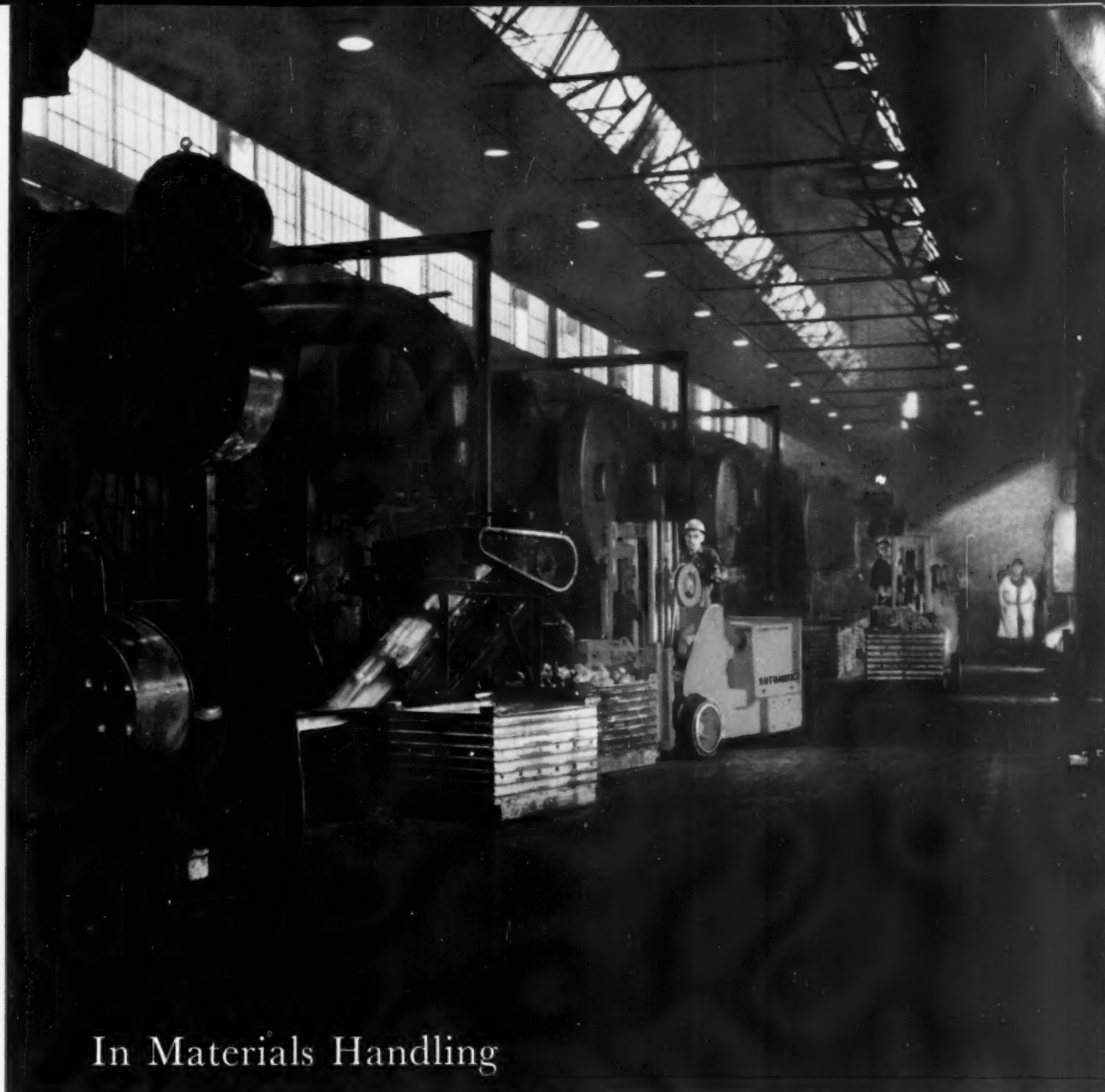
W. G. Spargo
Engineering Dept.
Anheuser-Busch, Inc.
St. Louis, Mo.

To FLOW:

Will you please send me a reproduction of your article covering conveyor belting published in FLOW, March, 1952.

D. I. Ingraham
Chow General Foreman
Ralston Purina Company
Davenport, Iowa

These are just a few samples of the requests that have not only required us to order more reprints and reproductions but also nearly swamped our corresponding secretaries. If you have not already heard directly regarding your request for this extra material, please be patient because it will be sent the moment it is received from the printer.



In Materials Handling

Photo by Arthur Siegel

Follow The Leaders...

Use Automatic Electric Trucks

Shown above are two Automatic Electric Trucks in the hammer shop of a leading automobile manufacturer where 30 million pounds of finished forgings are processed every month. Carrying approximately 6100 pounds in each load, these and a large fleet of other Automatic Electrics work around the clock, seven days a week, the whole year through.

Not every plant will make equally severe demands but all Automatic Electric Trucks are engineered and built

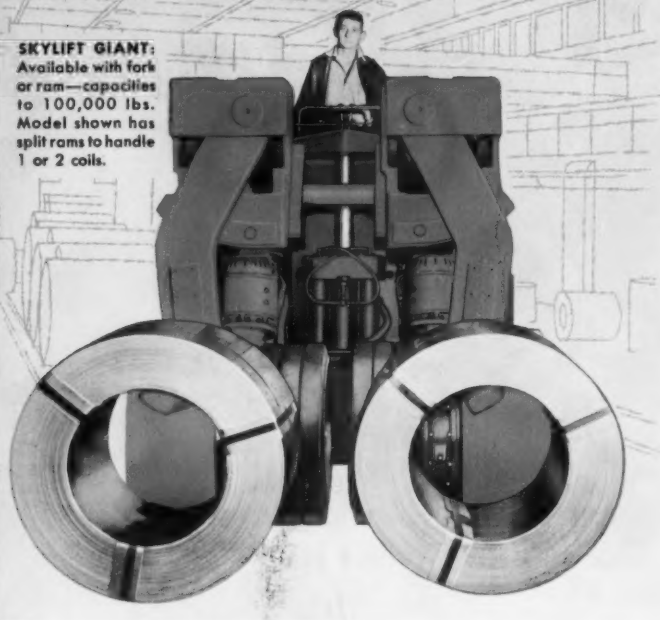
to give comparable service when needed. They work, too, for pennies an hour—cost less per year to own and less to operate...last years longer with only negligible time out for service and repairs.

They are, in fact, favored by industrial leaders everywhere because Automatic Engineering has made them outstanding leaders in every wanted lift-truck quality. And about those Automatic Electric Truck qualities ...more on the next page.

DOCKER: For congested areas, loading docks, etc. 1000 to 3000 lbs. capacities.



SKYLIFT GIANT: Available with fork or ram—capacities to 100,000 lbs. Model shown has split rams to handle 1 or 2 coils.



LOW PROFILE SKYLIFT: Operator's head always lower than top of most ... for maximum safety. Capacities 1000 to 4000 lbs.



TRANSVEYOR: Needs up to 50% less aisle space than counterweighted trucks—2000 to 4000 lbs. capacities.

For Owner or Operator...The Nod Goes to AUTOMATIC ELECTRIC TRUCKS When All the Facts Are Known

How well an operator likes his truck has a lot to do with how well it works. Operators who know them all, invariably favor *Automatic Electric Trucks*. They like them for the smooth, vibrationless, fume-free ride—freedom from gear shifting—safer low center of gravity—and above all for their superb handling ease—easier inching and smoother maneuvering in tight quarters.

For management, smoother running means less wear—less costly down time—lower repair bills. Greater safety means fewer accidents, better employee relations. Improved efficiency means more work at lower cost. Longer life means lower cost per year of ownership.

But the list goes on to much greater length than can be accommodated here. Send today for Automatic's new 16 page catalog illustrating and describing America's most complete line of electric-driven trucks. Here you'll find the truck or trucks made to order for your materials handling needs. No obligation. Just mail the coupon.

Automatic 141 West 87th Street, Dept. D6,
Chicago 20, Illinois

Without obligation, send me your new 16 page catalog of Automatic Electric Trucks.

Company name _____

By _____ Title _____

Address _____

City & Zone _____ State _____



50th
Automatic
Anniversary

**WORLD'S LARGEST EXCLUSIVE BUILDER
OF ELECTRIC-DRIVEN INDUSTRIAL TRUCKS**

LITHO IN U.S.A.

GOOD HOUSEKEEPING...and ECONOMICAL, TOO!

At large metal forming mill

The **LOAD LUGGER** System

(truck + Load Lugger + Containers)

- ✓ *simplifies plant refuse disposal...*
- ✓ *eliminates multiple handling...*
- ✓ *cuts time 200% over former method*

FORMER METHOD: 55-gallon drums spotted throughout plant as receptacles for refuse. Two men spent all day, every day, emptying drums into a cart, pushing it to nearest entrance and dumping contents on the ground or into a truck. Despite the time and effort, the plant was never clean. Alloy sludge, in 300-pound chunks, was dumped into a pit, hauled away by truck when the pit was full.

PRESENT METHOD: Fork truck empties drums into Load Lugger containers strategically spotted outside the plant—a one-man, part-time job. Sludge is handled and dumped by fork truck directly into Load Lugger containers. The Load Lugger equipped truck transports the full containers to a refuse-dumping ground—round trip, 20 minutes. *At the end of each day, plant is entirely free of refuse.* What's more, the Load Lugger also handles pipe and other materials—*versatility is a Load Lugger "plus-value"!*

Take a good look around *your* plant. Chances are, there's at *least* one operation—handling refuse, scrap metal, parts, castings, forgings, sub-assemblies, etc.—where the Load Lugger System can drastically reduce costs, give you the advantages of low-cost outdoor storage. Let us help you survey your situation and recommend the right Load Lugger and Containers for your needs.



Full container being placed on truck. Self-loading Load Lugger eliminates need for crane or crew—the Load Lugger driver does it alone, in seconds.



With container aboard, Load Lugger is ready to head for the dump.



A flick of the wrist and the load is dumped. Empty container is returned to the plant.

Check the Yellow Pages for name of your nearest Load Lugger dealer.



Ingersoll KALAMAZOO DIV.
BORG-WARNER CORPORATION

1834 North Pitcher Street, Kalamazoo, Michigan

Telephone 5-3301



Circle No. 34 on Reader Service Card for more information

← Circle No. 16 on Reader Service Card



**no matter how Big the Load,
or how Rough the Terrain . . .**

The NEW Ottawa TRACTO-LIFT

Handles the Load Faster, Easier . . . at Less Cost!

Unequalled for "Brute Strength" and rugged dependability . . . the New OTTAWA TRACTO-LIFT offers systematic handling of all loads under all conditions.

Unpaved outside storage space can be used the year 'round—for the new OTTAWA TRACTO-LIFT features over-sized "super traction" pneumatic tires, rear wheel steering, increased underneath clearance, greater speed and a wider range of speeds—six forward and six reverse. The OTTAWA TRACTO-LIFT will climb inclines up to 20%—has lifting capacities up to 15,000 pounds—and lifting heights up to 24 feet. And, with all its advantages, the OTTAWA TRACTO-LIFT costs less than any other fork lift of equal size and capacity.

Write Today for Complete Specifications and Illustrated Folder!

NAME.....

ADDRESS.....

CITY.....STATE.....



OTTAWA STEEL DIVISION

L. A. Young Spring and Wire Corporation

50 Years of Progress — 1906-1956

OTTAWA, KANSAS

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NEWS

from the
SALES FIELD



W. B. Marshall



G. H. Pfeifer

Two promotions have been noted at **Chain Belt Company**, Milwaukee, Wis. In the new position of Manager—Market Development & Sales Training is **W. B. Marshall**, former sales promotion manager. A veteran of some 35 years experience with the firm, Marshall will assist in general sales management as related to marketing activities and field force training.

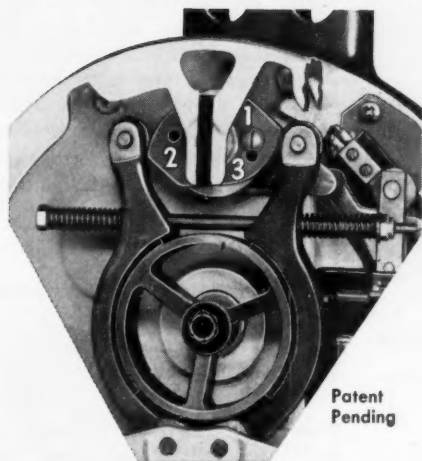
G. H. Pfeifer who has become Manager—Sales Promotion and Advertising, was formerly advertising manager. In advertising activities of Chain Belt since '33, he now heads advertising and sales promotion for all five divisions of the company.

W. W. Munroe Company, manufacturer's agents in St. Louis, are now distributors for the industrial trucks of **Baker-Raulang Company**. Munroe currently has sales and service facilities at 728 Evans Ave., but will shortly expand into a new building where a full line of Baker parts and demonstration equipment will be carried. The firm's territory will include southern Illinois and eastern Missouri as well as metropolitan St. Louis.

Circle No. 18 on Reader Service Card →



The WRIGHT Hoists for Dependability



Patent Pending

Nothing to adjust but the cam!

Here's your assurance of maximum hoist service—minimum downtime. Adjustment of this cam-actuated brake to compensate for brake lining wear is simple as ABC.

When excessive load hook drift occurs...remove the screw shown at Position 1 (see picture), swing the cam until Position 2 is in line and replace the screw. That's all there is to it. For the final third of brake lining wear, set the cam at Position 3.

This is the only adjustment required. Brake springs and solenoid are factory-set and never need adjustment.

for complete information on WRIGHT Hoists and Crane components ask for:

Speedway Hoists: (Frame 1) Booklet DH133B, (Frame 2 & 3) Catalog E55A • **Motor Driven Cranes:** Underhung, Single Bridge, Bulletin #227; Top Running, Bulletins #DH448 or DH449 • **Crane Drive Units:** Booklet DH-431A • **Hand Traveling Cranes:** Bulletins #DH-469 and #DH-438A

Write our YORK, PA., office



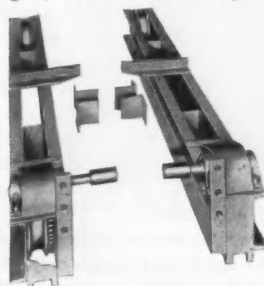
HOISTS, CRANES AND DRIVE UNITS TO FIT YOUR OPERATION

WRIGHT *Speedway* Hoists are designed to meet the many and varied demands of modern high speed production.

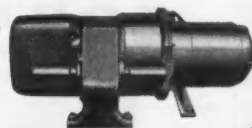


They are available in Frame 1, 1½, 2 and 3 sizes with capacities from ¼ to 10 tons.

WRIGHT B-514 Crane End Trucks are constructed of structural steel-welded steel channels equipped with heavy channel diaphragms. Truck wheels are equipped with Timken Tapered Roller Bearings (two to each wheel).



WRIGHT Crane Drive Unit consists of an electric motor with a fluid coupling transmitting power to a well proportioned gear reduction. It is designed for crane and double-beam trolley propulsion and similar intermittent duty reversing applications.

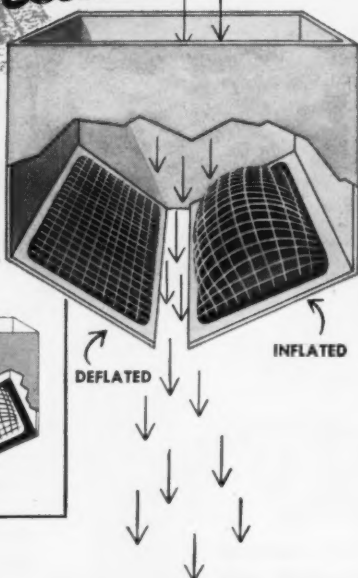
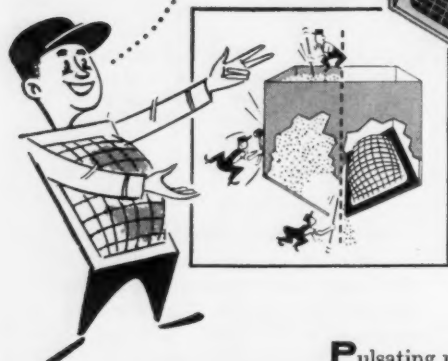


Wright Hoist Division
AMERICAN CHAIN & CABLE

York, Pa., Atlanta, Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

Better Value

PneuBin's principle of Positive Displacement moves the bin contents ...not the bin



Pulsating neoprene panels inside the bin are PneuBin's secret weapon against bin flow bottlenecks. The PneuBin unit consists of steelbacked, neoprene, pulsating panels mounted on the inside wall of your present bins . . . and air controls to regulate the panels' action. By the pneumatic inflation and deflation of the PneuBin panels, the bin contents are positively displaced to insure free flow. After the panels have deflated, the air control unit (operating off the regular plant air supply) starts another cycle of inflation and deflation. The process continues *automatically* at whatever frequency is set on the air controller (this frequency is adjustable).

Because the neoprene diaphragm is resistant to oils and most chemicals and is also thick and tough enough to withstand severe abrasive service, PneuBin is applicable to most any bin flow problem.

Sizes: PneuBin panels are available in ten standard sizes from 4" x 12" to 24" x 72". Special sizes can be made if required in quantity.

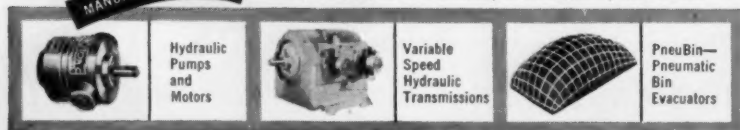
Send for "Flow Stoppage Report" and free literature. PneuBin engineers will gladly make recommendations, with no obligation on your part.

GEROTOR

MAY CORPORATION

MANUFACTURERS OF—

1523 MARYLAND AVENUE, BALTIMORE 3, MARYLAND



Circle No. 89 on Reader Service Card for more information

SALES FIELD

Continued

Alvey Conveyor Manufacturing Company, St. Louis, Mo., has an expanded sales engineering and service office for the Greenville, S. C., area. Known as the **Easley-Burdette Agency**, it will provide the services of **Curran S. Easley**, long known in textile and construction fields, and **Luther D. Burdette**, who contributes broad and extensive experience in the development of engineered package conveyor systems. Offices have been opened in Suite 206, Masonic Temple Bldg., Greenville.

General Sales Manager **L. A. DePolis** of **Clark Equipment Company** has named **M. J. "Doc" Drackett** sales manager of the Attachments Section of the firm's Industrial Truck Division. For the past seven years, Drackett was a sales engineer with **Modern Handling Equipment**, Clark's Chicago distributor. He was responsible for developing methods for handling bakery goods, newsprint and corrugated paper rolls.



M. J. Drackett

A new name—**Bruce Equipment Company**—has been adopted by the firm formerly known as Wisconsin Industrial Equipment Co., located at 2609 West Mineral St., Milwaukee, Wis. **G. Bruce Herrider**, head of the company which distributes material handling, storage, processing, counting and control equipment, said the shorter name will be easier to remember and eliminate confusion which existed between the old name and several competitive firms with similar names.

FLOW

PROBLEM:

HOW TO ELIMINATE "FLATS"— BUT STILL GET A "SOFT" RIDE

**SOLUTION:
NOTAT
TIRES**

Granville Strachan, supervisor of Shipping, Receiving and Storage, Samuel M. Langston Co. (Camden, N. J.) corrugated container machinery, reports: "Because our fork trucks travel a great deal over bumpy cobblestone streets, we couldn't use solid tires. And because of steel turnings on the plant floors, we had a lot of "flat" trouble with pneumatic tires. A year has passed since we installed a set of NOTATS on the above Buda. That's longer than most sets of pneumatics ever lasted and we've still got plenty of wear left. We certainly eliminated flats and got the bounce-free riding quality we were looking for."

Because Notat Tires have no air chamber, they can't go flat. And because they're LAMINATED (not solid) they "give" to prevent damage to loads and vehicles.

At in-plant speeds, NOTATS ride and steer like pneumatic tires. On wet or greasy surfaces, NOTATS' molded-together "pads" grip instead of slip . . . give faster starting, faster stopping.

For longer tire life, easier steering, better traction and no tire trouble—switch to NOTATS. Available from 4.00 x 8 to 9.00 x 24.

Write for price list and catalog.

After a year of use (over cobblestones and steel fragments) this set of NOTAT Tires still has plenty of wear left.



Notat Tires Available As Optional Original Equipment By The Following Manufacturers—

Allis-Chalmers Buda Fork Lift Trucks
Barrentine Pasture Clippers
Butler Car Scoops
Clark Lift Trucks
Clark Michigan Tractor Shovels 12B
Clark Towing Tractors

Getman Scoot-Creates
Hough HA Payloaders
Jaeger Front End Loaders
Lawrence Bros. Bush-Hog Rotary Cutters
Taylor Pasture Dream Clippers

Tractomotive Tracto Loaders TL6
Trojan Loaders
Wood's Rotary Cutters
Worthington Rotary Blitters
Yonkers & Johnson Two-Way Plows

NO FLATS WITH NOTATS

The original laminated tire — accept no substitutes



**NOTAT
TIRE COMPANY**
1504 EAST 34th STREET
CHATTANOOGA, TENNESSEE

NOTAT TIRE CO.
1504 E. 34th STREET
CHATTANOOGA, TENN.

Gentlemen:

Please send me a copy of your Notat price list and further information on how NOTATS will reduce tire cost and eliminate down-time.

NAME _____
CO. NAME _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

AUTOMATION



IS SIMPLE

As sliced cold meats travel by on stainless steel Wendway belting, operator labels each type as they proceed to the package wrapping machine.

WITH

WENDWAY

THE VERSATILE, LIGHT PRODUCT CONVEYOR



Freshly packaged cheese sections are conveyed smoothly and quickly to labelling machine via Wendway.



Cartons or light packages ride perfectly on Wendway's smooth, silent belting.

● You can have remote controlled efficiency in conveying light products to any location in your plant. A Wendway system will eliminate multiple handling of products, save man hours and floor space. Wendway, industry's most versatile conveying system, specializes in moving light goods swiftly, quietly, safely and economically.

Wendway's steel wire belting is ideal for handling wrapped or unwrapped foods up to twenty pounds per unit. It permits free circulation of air from above and below. Does not sag or accumulate grease and dirt like ordinary belting. Wendway can be kept highly sanitary with hot water, or by direct scalding. Regular bright basic (lacquered) belting is fine for packages or products, stainless steel belting is recommended for foods or unwrapped meats.

So...whether your problem is assembly, processing, packing, order picking or inspection, you'll find Wendway pays for itself from the day it's installed.



Gentlemen: Please send me additional information about Wendway for conveying _____

Name _____

Company _____

Address _____ Zone _____ State _____

Have a USP Conveyor Engineer contact me at once ☐

UNION STEEL PRODUCTS COMPANY

ALBION, MICHIGAN

Circle No. 200 on Reader Service Card for more information

SALES FIELD

Continued

New district sales manager for the Southwestern sales territory of Shield Bantam Company is John C. Carlile, according to Buel M. Wallis, general sales manager. Carlile will manage a territory including Calif., N. M., Ariz., Colo., Nev., and the extreme western part of Texas. Prior to this appointment, he had been a district sales representative for LeTourneau-Westinghouse and the J. D. Adams Co. He was formerly with Bucyrus-Erie Co. for eight years. His headquarters will be at 2700 W. Century Blvd., Inglewood, Cal.



John C. Carlile

Having completed a six-month, Rapids-Standard Co., specialized indoctrination program, Harry Warren Baker has joined the sales engineering staff of Rapistan of New Jersey. He will serve the Essex-Morris-Union county area. For three years, Baker was sales engineer for his own industrial supply company and, prior to that, for the Walker-Turner Co., New York, New Jersey Lubricants Co., and Martin Miller Inc.

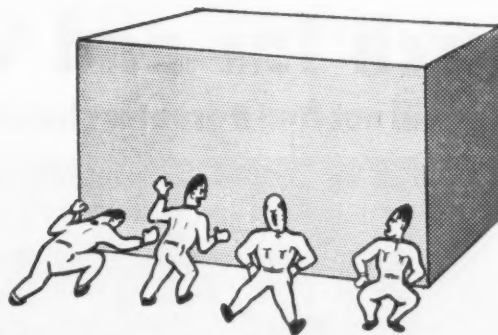
N. Ernest Gresham has been made division manager for Gerlinger Carrier Co. of an area including the northern half of the United States and all of Canada, according to John W. Kitzmiller, Gerlinger V. P. in charge of sales. Gresham joined the firm in March '51 as a salesman for the State of Oregon. George C. Lichty is division sales manager for the southern half of the U. S.



N. E. Gresham

FLOW

**Solve your
materials handling
problems**



VISIT BRITAIN'S MECHANICAL HANDLING EXHIBITION

EARLS COURT · LONDON · 9-19 MAY 1956

THE greatest display of mechanical handling equipment the world has ever seen, packed with devices for reducing costs and increasing output, takes place at Earls Court, London, 9-19 May, 1956.

Here you can inspect labour-aiding equipment, large and small, for every industry, light or heavy. Whether your requirements involve only a modest device or a complete, large-scale installation, they can be met. Much equipment will be in operation and experts will be at hand to discuss its application to your special needs.

This exhibition is of world-wide importance to all concerned with the achievement of higher output for less cost and effort. At the Convention, held simultaneously, experts from many countries will explain their methods for speeding production. Special facilities include overseas visitors' lounge, free consulting bureau, industrial cinema, etc. Decide today to visit this vital exhibition—mail the enquiry form below for full particulars. Do it now!

See the latest in:

**INDUSTRIAL CONVEYORS
ELEVATORS & STACKERS
HOISTS & PULLEY BLOCKS
PNEUMATIC HANDLING PLANTS
GRAIN & POWDER HANDLING PLANTS
PNEUMATIC TUBE SYSTEMS
COAL HANDLING PLANT
BOTTLING PLANTS
TRUCKS, fork, industrial, etc.
TRAILERS, TRACTORS
AERIAL ROPEWAYS,
CABLEWAYS & TELFERS
CRANES of all types
EARTH-MOVING EQUIPMENT
LORRY LOADERS**

ACCESSORIES & APPLIANCES.
Pallets, Stillages and Containers, Conveyor Belting, Chains, Crane Attachments, Pneumatic Equipment, Control Equipment, Conveyor Components, Driving Gears, Truck and Trolley Wheels, Bag and Sack Fillers, etc.

AN ESSENTIAL EXHIBITION FOR EVERYONE CONCERNED WITH PRODUCTION



PLAN YOUR VISIT AHEAD - MAIL THIS ENQUIRY TODAY

To **Mechanical Handling** DORSET HOUSE · STAMFORD STREET · LONDON S.E.1 · ENGLAND

Please send me the Exhibition Brochure with Convention and admission details, etc.

NAME

ADDRESS

No. 23A

search far and wide
and you will not find a greater shelving value!

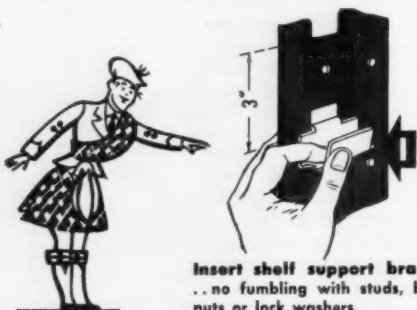
BORROUGHS

*UNITIZED *flexi*

STEEL SHELVING

most simple, most adjustable, most rapidly assembled line of steel shelving on the market!

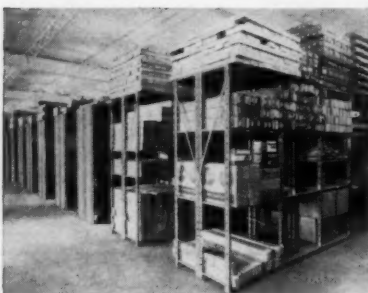
No tools whatever are needed to adjust Borroughs Steel Shelving. This is important for 3 reasons. **FIRST**—time is saved in installation. **SECOND**—time is saved in adjusting shelves. **THIRD**—the time saved in installation and quick and easy adjustability of shelves means real economy in labor saving. *Remember, too, that each individual Borroughs unit is complete in itself... no part depends on unit next to it... any unit or shelf can be moved independently.



Insert shelf support bracket
... no fumbling with studs, bolts, nuts or lock washers.

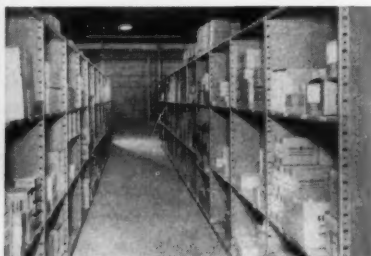


Tilt shelf into support bracket
... and shelf is ready for loading.



Installation of Borroughs open and closed steel shelving at Hoover Company, Canton, Ohio, showing wide shelf spacing for storage of large items.

send for 32-page catalog



Another installation of Borroughs industrial shelving being used at the General Electric Construction Materials Division Warehouse in Chicago, Illinois.

BORROUGHS MANUFACTURING COMPANY

A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT

3022 NORTH BURDICK **amp** KALAMAZOO, MICHIGAN

amp Plants and other Subsidiaries: (American Metal Products Co.—Detroit, Michigan—Union City, Tennessee) (AllianceWare, Inc.—Alliance, Ohio—Kilgore, Texas—Colton, California) (General Spring Products, Ltd.—Kitchener, Ontario, Canada) (Tube Reducing Corp.—Wallington, New Jersey)

Manufacturers of quality products for automobiles, trucks, aircraft, offices, factories, warehouses, and homes.

Circle No. 31 on Reader Service Card for more information

SALES FIELD

Continued

The new parts and service manager for Link-Belt Speeder Corp. is **Herbert Wignall**, according to **C. M. Basile**, vice president in charge of manufacturing and sales. Wignall has been with the company for some 10 years. He will also supervise the training of all distributor and future factory servicemen.



Herbert Wignall

George Hausch has been designated manager of the new **Colson Corporation** branch sales office and warehouse in Portland, Ore., by Colson president **Robert A. Pritzker**.

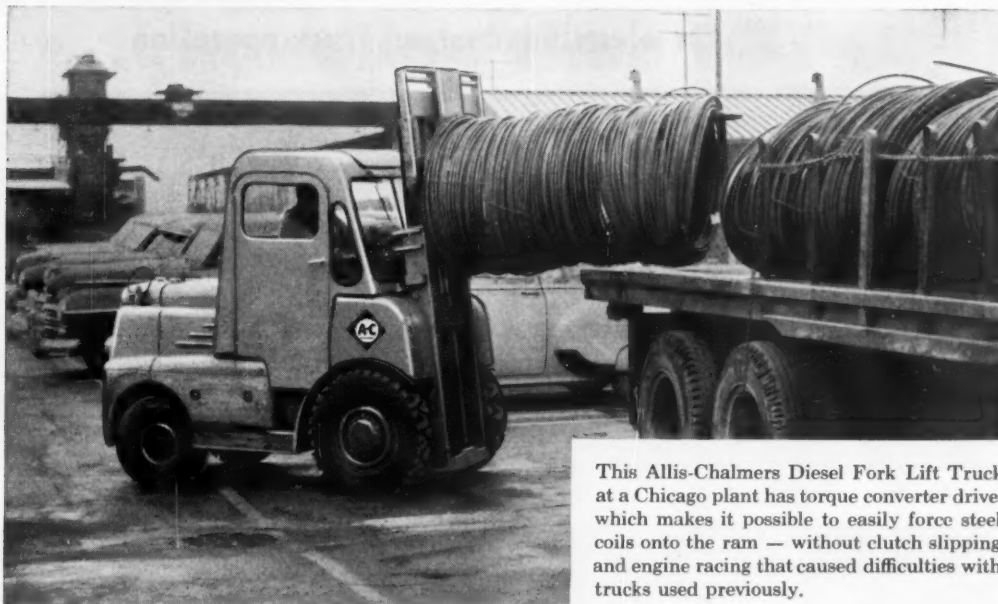


George Hausch previously was manager of the Portland office for **R. H. Brown Co.**, former Colson distributor in the area. His branch covers Portland, most of western Oregon and three counties in southwestern Washington. The **R. H. Brown Co.** continues to handle the Colson line in eastern Oregon, Washington, Montana and Idaho.

Raybestos-Manhattan, Inc., Passaic, N. J. has named **John J. Refieuna** Sales Engineer in the firm's Western Sales District, headquartered in Chicago. With a broad background of conveyor belt experience, he will service large conveyor equipment manufacturers, mining companies and other heavy industrial accounts in the area.

(Continued on page 137)

Allis-Chalmers Fork Lift Trucks...



This Allis-Chalmers Diesel Fork Lift Truck at a Chicago plant has torque converter drive, which makes it possible to easily force steel coils onto the ram — without clutch slipping and engine racing that caused difficulties with trucks used previously.

stay on the job longer...

Reports of Allis-Chalmers Fork Trucks working thousands of hours without lost time are not unusual. Such records are not surprising, either, to those who know the long-life, low maintenance features engineered into these trucks.

Their rugged construction is typified by the

all-welded, automotive-type frame — strongest used. Double-reduction axle and heavy-duty, four-pinion differential lengthen service life. Precision-built mast is a welded high-strength channel. Such features as these add up to *more time on the job.*

get back to work faster

The Allis-Chalmers Fork Lift Truck is a serviceman's dream!

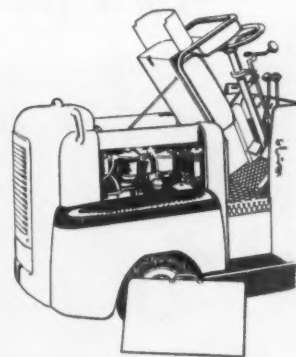
It takes only 22 seconds to strip for service. Lift off two side panels, tip seat forward, remove engine cowl by unscrewing two wing nuts — and everything is right there.

It takes only 22 minutes for two men to disassemble — right down to the bare frame! There are only 20 bolts and nuts to remove.

It takes only 30 minutes to change a clutch. To get at it, you simply remove the floor boards. Clutch plate is replaced without disturbing transmission or axle.

Ask your dealer to show you how Allis-Chalmers Fork Trucks make possible many bonus hours of low-cost operation.

In but 22 seconds, engine, carburetor, oil filler tube, oil filter, fuel pump, battery and ignition system — all are accessible for servicing.



ALLIS-CHALMERS, BUDA DIVISION, MILWAUKEE 1, WISCONSIN

ALLIS-CHALMERS

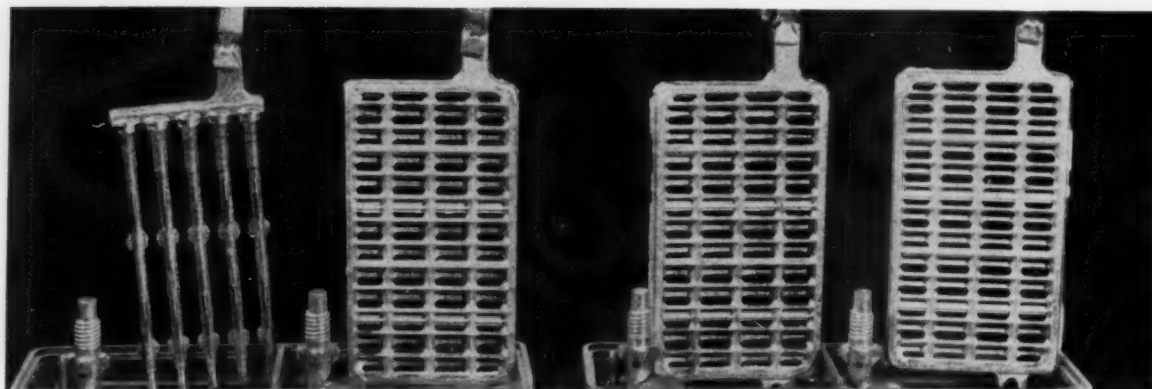


BH-6A

Circle No. 37 on Reader Service Card for more information

EXIDE-IRONCLAD BATTERIES

For electric industrial truck operation

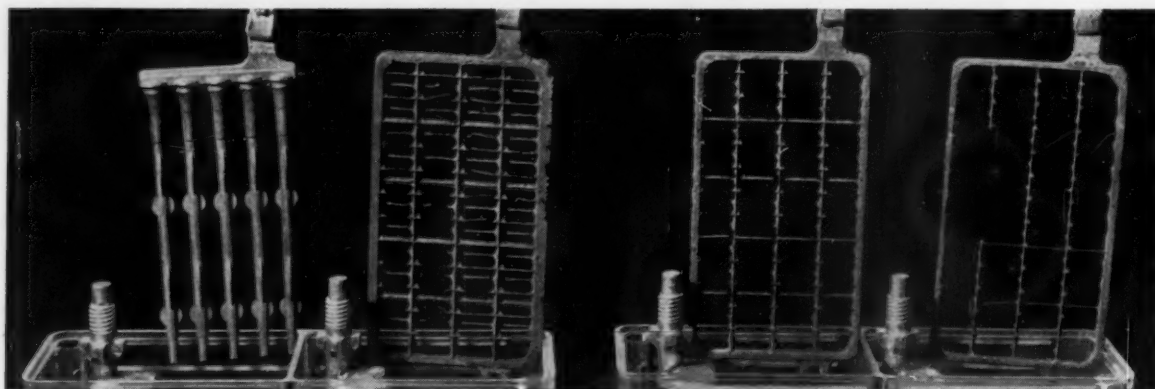


BEFORE: Silvium alloy

Alloy "A"

Alloy "B"

Alloy "C"

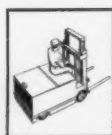


AFTER: Note how the Silvium grid resisted corrosion. Compare it with the other alloys.

Corrosion resistant SILVIUM prolongs battery life



BATTERY FOR ELECTRIC INDUSTRIAL TRUCK, Model TH. Fits snugly into space provided on truck. Has tubular construction of positive plates, Silvium grids, "Permanized" negative plates, extra heavy connectors and all other Exide-Ironclad advantages that mean power to spare in heavy duty applications. Write for Bulletin 5161.



Reaching down deep into every Exide-Ironclad Battery are the fingers of Silvium alloy metal which form the grids of the famous Exide-Ironclad positive plates.

Silvium is a special alloy developed by Exide to resist corrosion and thus prolong battery life. For proof, Exide research engineers compared the performance of an Ironclad Silvium grid side by side with ordinary grids of other lead alloys. As the photographs above show, only Silvium came through the test without damaging corrosion—undiminished in size, unimpaired in strength. The other grids showed from moderate to severe corrosion.

Tests have proved that Silvium is not only more resistant to corrosion, but also a better conductor of electricity.

Hence it both prolongs battery life and—because there's less internal battery resistance—more readily permits heavy drafts of power.

This special material is only one of the many exclusive features which have made Exide-Ironclad Batteries world famous for high capacity and long life. When you order batteries for heavy duty applications, or the equipment requiring such batteries, be sure to specify Exide-Ironclad. Write for detailed bulletin. Exide Industrial Division, The Electric Storage Battery Company, Phila. 2, Pa.

Exide®

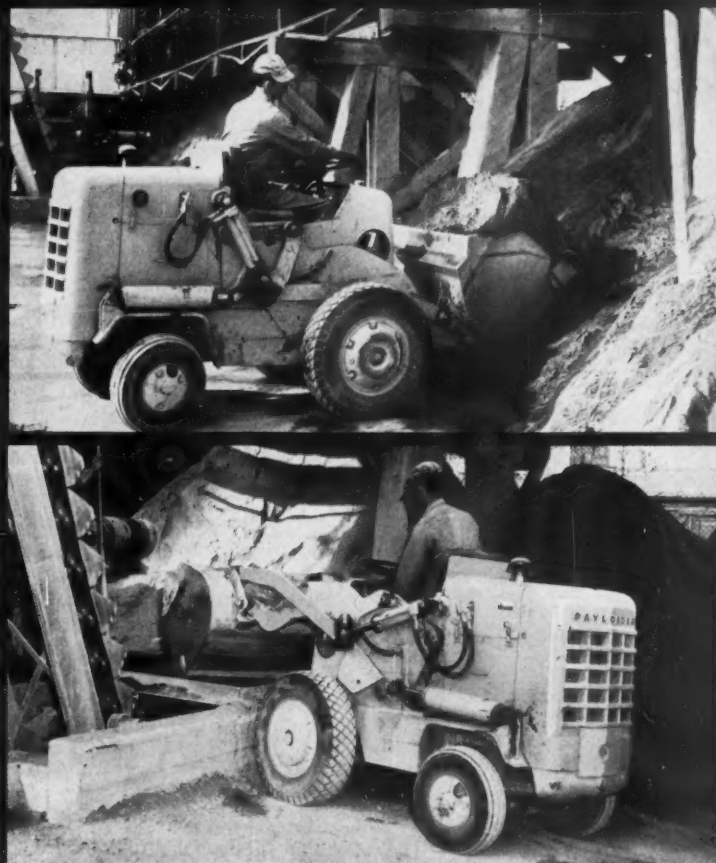
Circle No. 73 on Reader Service Card for more information

FLOW

new-design **PAYLOADER**[®] cuts ... handling time 1/3

Concrete Ready-Mixed Corp. serves a 15-mile radius around Roanoke, Virginia. Their "PAY-LOADER" scoops-up material from stockpiles and carries and delivers it to a receiving hopper. The unit handles about 33,000 tons of sand annually in addition to smaller percentages of stone. D. G. Lindsey, Supt. and Vice President, says,

"We thought our old HA 'PAYLOADER' was efficient, but the new-design HA has cut handling time more than one-third. The torque converter saves wear and tear on tires and machine — is also easier on the receiving hopper. Our old 'PAYLOADER' worked 9 years."



There are proven models in the complete "PAY-LOADER" line to meet the bulk-materials handling needs of industry indoors and outdoors — to scoop-up, carry, unload, load, dump, spread and stockpile sand, chemicals, chips or any other loose materials. Sizes from 18 cu. ft. to 2¼ cu. yd. bucket capacity.

Both front-wheel-drive and 4-wheel-drive sizes have the efficient new Hough bucket action with 40 degree roll-back at ground level that gets bigger loads easier—carries bigger loads faster, more safely. All "PAYLOADER" models are full of features and advantages that result from Hough's pioneering and greater experience in tractor-shovel manufacture.



PAYLOADER[®]

MANUFACTURED BY
THE FRANK G. HOUGH CO. LIBERTYVILLE, ILL.
SUBSIDIARY—INTERNATIONAL HARVESTER COMPANY



**Your nearby Hough Distributor
is ready to help you select the
"PAYLOADER" that best fits
your needs.**

THE FRANK G. HOUGH CO.
731 Sunnyside Ave., Libertyville, Ill.

Send data on front-wheel-drive "PAYLOADER"

☐ model HA (18 cu. ft.) ☐ model HAH (1 cu. yd.)

Rear-wheel-drive

☐ model HF (1 cu. yd.) ☐ model HFH (1½ cu. yd.)

Four-wheel-drive

☐ model HU (1 cu. yd.) ☐ model HH (1½ cu. yd.)

☐ model HO (2¼ cu. yd.)

Name

Title

Company

Street

City State

Circle No. 106 on Reader Service Card for more information

**SIMPLICITY
ENGINEERING TO
DOUBLE PLANT SIZE**

A new building, expected to be completed some time this summer, will add 50,000 square feet—50 percent of the present floor space—to the plant of Simplicity Engineering Co., Durand, Mich. Founded some 30 years ago to manufacture gyrating screens for sand and gravel, the company today produces material handling equipment for many industries and has undertaken to keep up with a widening market for its products.

**AUTOETTE MOVES
TO LARGER,
POMONA PLANT**

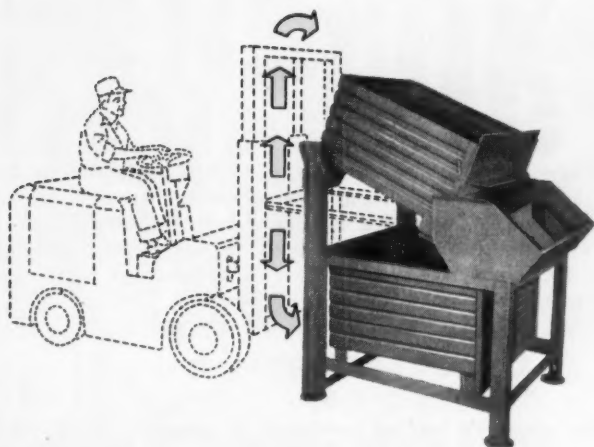
Increased production of the six basic models of Autoette electric cars has necessitated the move of the firm's factory from Long Beach to that of its parent company, Wayne Manufacturing Co., in Pomona, according to Charles M. Weinberg, president of both Autoette and Wayne. G. M. Wayne, executive vice president, said that integration of research and certain engineering departments of the two organizations would produce better products at less cost. A 30,000 square foot factory, under construction in Pomona, will ultimately house the Autoette production line.

**MENASHA
WOODENWARE
REPORTS NEW
SUBSIDIARY**

The Menasha Woodenware Corporation has announced the incorporation of a subsidiary, The Container Development Corporation. It will market material handling containers similar to those produced and sold by the G. B. Lewis Company of Watertown, Wis., also controlled by Menasha. The new corporation headquarters will also be in Watertown, at 415 Monroe St.

**INTEREST HIGH
IN WESTERN SHOWS**

The two big expositions scheduled in Los Angeles for the months ahead are attracting great interest, according to spokesmen for the respective sponsors. The Los Angeles Chapter of the AMHS has nearly sold out exhibit space in the 80,000 square feet which will accommodate the trade show of Western Material Handling Conference and Equipment Show at the new Western Livestock Exhibition Auditorium. The affair will include a Technical Conference on subjects of high current interest to material handling people, as well as two three-hour Fork Truck Rodeos daily. The Western Packaging & Material Handling Exposition scheduled for the Pan Pacific Auditorium, Los Angeles, July 10,11,12, is also well on the way to a sell-out, according to the producers, Clapp & Poliak, Inc. The firm says that exhibit space commitments already made are at a level not usually expected until May for a show scheduled in July.



HANDLING

Powell's strikingly simplified Flow-matic® system of mass material handling has proved it can increase the efficiency of the lift truck operation by as much as 30 percent. The entire operation, both working and receiving units, is confined to a single compact station, easily accessible to lift trucks. This reduces floor area required and eliminates time-consuming "lift truck jockeying."

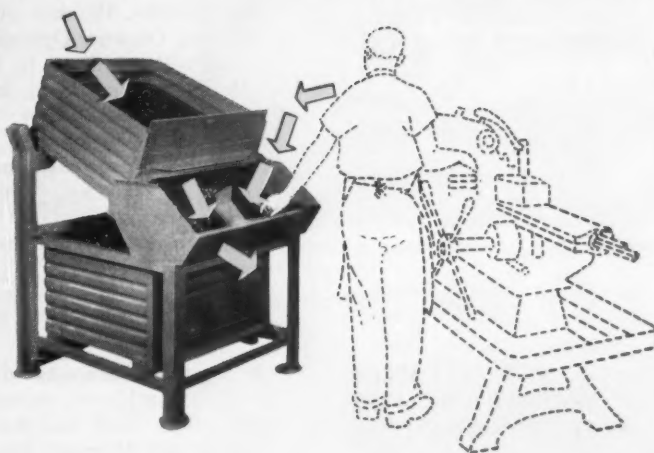
9878-

Only FLOW-MATIC® Saves Both Ways!

PRODUCTION

Because it is a single-station unit, machine operator fatigue is substantially reduced. He need only make a single movement to both dispose of finished piece and select one to receive work. Too, because the entire unit requires a minimum of floor area, machines can be spotted closer together, permitting more efficient use of available space.

Before you place your order for materials handling equipment, be sure you have acquainted yourself with Flow-matic®. Contact the Powell representative in your area or write direct for full details.



*Get Your
Free Copy*

Mail Coupon Today



flow-mation* Systems

the POWELL PRESSED STEEL Co., Dept. 246, HUBBARD, OHIO

I would like a copy of FLOW-MATION*, the illustrated pamphlet that gives full details of the new Powell FLOW-MATION* System.

Name
 Title Company
 Address
 City State

Circle No. 161 on Reader Service Card for more information

APRIL, 1956

31

PAK-RAPID MOVES

Now in a new plant on Elizabeth St., in West Conshohocken, Pa., Pak-Rapid, Inc., has facilities to meet current, increased production demands and provide for further expansion, says President James Irvine. The company was located in Philadelphia. The new factory is located on a large industrial site, adjacent to the east and west entrance to the Schuylkill Expressway.

**MORSE CHAIN
ACQUIRES
EBERHART-DENVER
CO.**

One of the country's leading producers of speed reducers, Eberhart-Denver Co., Denver, Colo., along with its affiliate, the Spreco Co. of Chicago, has been acquired by Morse Chain Co., Borg-Warner subsidiary. Fred Eberhart, founder of the Denver company, becomes chairman of the board. Stanley Roush, president of Morse Chain, will be president of the combined firms.

**WHITING OF CANADA
BUYS VOLTA
MANUFACTURING CO.**

Whiting Corporation (Canada), subsidiary of Whiting Corporation, Harvey, Ill., has purchased Volta Manufacturing Co., Ltd., Welland, Ontario. Operating as a subsidiary of Whiting (Canada), Volta will continue to manufacture electric furnaces, smelters, other Volta equipment. In addition, the firm will manufacture the complete Whiting line, including foundry and chemical equipment, overhead cranes, trambeam handling systems, Trackmobile and railroad equipment. The new company will be headed by J. A. Handley, Whiting president. Whiting is planning a building expansion, for the near future, that will more than double plant capacity and office space.

**NEW ATLANTA
WAREHOUSE FOR
STEPHENS-ADAMSON**

A regional warehouse to stock belt conveyor components, car loading machinery, winches, car pullers, transmission equipment and allied lines has been opened by Stephens-Adamson Mfg. Co., at 650 Murphy Ave., S.W., Bldg. E, Unit 18, Atlanta, Ga. Al Steele is the territorial sales manager located in Atlanta; Don Dolan holds a similar post in Raleigh, N. C.

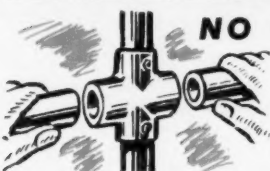
**THE FRANK G. HOUGH
CO. INITIATES
BIG EXPANSION**

A 55,000 square foot addition to the plant of The Frank G. Hough Co., Libertyville, Ill., is expected to be completed this year. The new buildings will give the plant a total of 368,000 square feet, an area 32 times greater than the original property when the "Payloader" firm moved to Libertyville from Chicago 16 years ago. During 1955 the company introduced five new models of its tractor-shovels and, it reports, experienced the largest sales volume and highest number of units delivered in its history. A sizable increase in sales volume is expected in 1956.

For Fast Assembly -- at Lower Cost

KEY-LOK

Structural Fittings



**NO PIPE THREADING —
NO WELDING**

You simply insert pipe in the Fittings and lock in position for a strong and rigid Assembly...

KEY-LOK offers the most economical system of SHELVEING, STOCK PILING AND GUARD RAIL CONSTRUCTION ever devised . . . Erection is fast because no pipe threading or welding is required, and the pipe need not be cut for intermediate supports. KEY-LOK Fittings are made to fit standard U. S. pipe. New or used pipe (undamaged) can be used. Pipe can be purchased locally—saving freight. Pipe with pinholes but otherwise good can be used. This type of structural fitting is widely used in Industrial, Mercantile, Agricultural and Governmental Institutions throughout Europe and Canada, and has been found to be by far, the most adaptable system of Storage and Guard Rail construction known today.

FOR STRONG AND SPEEDY CONSTRUCTION

KEY-LOK FITTINGS are designed to utilize ALL of the strength of the pipe for Heavy, Medium or Light applications. Set screws are tightened by hand with a socket wrench, creating a tight and rigid jam action which actually improves as the load increases. Anything made with KEY-LOK Structural Fittings can be adjusted for height, width, or length, and can be disassembled, without the loss of a single fitting or piece of pipe. Fittings can be used over and over again.

GREAT STRUCTURAL STRENGTH

of KEY-LOCK Fittings is obtained not only by the jamming action of the set-screw on the pipe, but KEY-LOK Fittings are made of special Ductile Iron, possessing much stronger properties than ordinary castings, and having a tensile strength of 75,000 p.s.i. . . . Manufactured in Dayton, Ohio by one of the largest and most modern foundries in America. Write, wire or phone for Technical Bulletin, full information and prices, to

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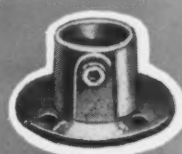
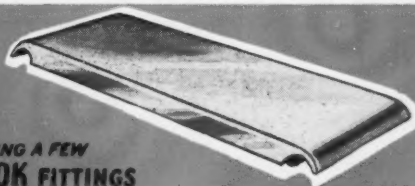
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1500 Marietta St. N. W. Mr. B. H. Sasnett, Sr. Tel. Sycamore 4-8275
BOROUGHES MANUFACTURING CO.—NEW YORK 13, N. Y.
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MATERIAL FLOW, INC.—CHICAGO 40, ILL.
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INQUIRIES from Mfrs. Agents and Distributors invited.



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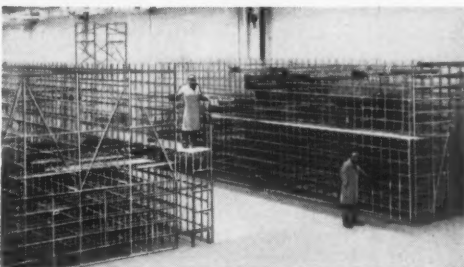
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How Stapling Cuts Costs . . . in applications in many types of business, by use of 800 different models with 200 types of staples, is the information offered you by the Bostitch Co.

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How to Build Your Own 180 Swing Jib Crane with Fast Electric Hoist . . . is the subject of a bulletin available from Manning, Maxwell & Moore, Inc.

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Engineered Conveyors . . . to what extent is automation practical and profitable, are detailed for you in information from Service Conveyor Co.

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Industrial Truck Engines . . . of all types are fully covered in a catalog offered you by the Chrysler Corp.

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Direct-Reading Instruments . . . hour logs without hands on dials are described in Bulletin L 754 from Engler Instrument Co.

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How to Buy the Correct Belt for Your Conveying Job . . . is the title of a new 14-page manual illustrating uses, maintenance tips, sizes and prices of cotton conveyor belts offered you by the Buffalo Weaving & Belting Co.

Circle 38 on Reader Service Card

How Radio Telephones . . . increase handling efficiency and also serves as a plant public address system . . . complete information offered you by Kaar Engineering Corp.

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Automatic Strapper . . . maintains pre-selected tension while strapping any size package. Descriptive folder with complete facts available from General Strapping Corp.

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Table-Top Label Machine . . . prints and fills in address at a rate of 105 per minute, according to data for you offered by Weber Label Systems.

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Steel-Belt Conveyor . . . with unlimited belt life and slip-proof drive, described in data available from West Bend Equipment Co.

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New High-Vibratory Equipment . . . including feeders and unit bins are fully described in information offered by Eriez Manufacturing Co.

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Power Conveyors . . . systems and accessories are described in a new 24-page bulletin available to you from Food Machinery and Chemical Corp.

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Unitized Steel Shelving . . . assembled without studs or bolts is illustrated in a 32-page catalog offered you by Borroughs Manufacturing Co.

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Portable Belt Conveyors . . . in several models are described and detailed in a new complete catalog available from the Belt Corp.

Circle 28 on Reader Service Card

Complete Power Units . . . for walkies eliminate battery charging equipment, allow battery to be charged without removing battery from truck. Descriptive literature available to you from K-W Battery Co.

Circle 120 on Reader Service Card

Drum-Handling Attachment . . . for fork trucks, with forks on or off, to handle any size or type of drum, is described in catalog offered you by Marvel Industries, Inc.

Circle 148 on Reader Service Card

Case Studies in Modern Lifting . . . is the title of a booklet describing hydraulic oil lifts available to you from the Globe Hoist Co.

Circle 92 on Reader Service Card

Accessibility for Servicing . . . of engine, accessories and ignition system are said to keep fork lift trucks on the job longer and get them back to work faster, according to information for you from the Buda Div. of Allis-Chalmers Co.

Circle 37 on Reader Service Card

Built-It-Yourself Crane . . . underhung and top running hand geared running assemblies are described in bulletins 2200 and 2300 offered you by Conco Engineering Works.

Circle 52 on Reader Service Card

Self-Dumping Hopper . . . makes every truck a dump truck and cuts hand unloading 50%, says data offered you by Roura Iron Works.

Circle 171 on Reader Service Card

Push Trucks . . . cuts handling costs and ease work, according to folder from Brooks and Perkins, Inc.

Circle 35 on Reader Service Card

Aluminum Dock Boards . . . in standard sizes, constructed of strong, lightweight alloy, are fully described in literature from Washington Aluminum Co., Inc.

Circle 210 on Reader Service Card

and BULLETINS

advertisements in this publication

Reinforced Gummed Tape . . . stronger with rayon yarn reinforcement, approved for center seam use, saving two-thirds packing time. Information and a fifteen-yard sample available from Angier Corp.

Circle 11 on Reader Service Card

Steel Storage Equipment . . . including 60 types of steel lockers, 7000 standard sizes of steel shelving, and heavy-gauge steel cabinets with adjustable shelves are described in a new catalog offered you by Penco Metal Products Div., Alan Wood Steel Co.

Circle 160 on Reader Service Card

Narrow Belt Conveyor . . . for handling small dimension light weight containers, in 5, 10, 15, and 20-foot lengths, with standard parts for extension when needed. Island Equipment Corp. offers you a new booklet with full particulars.

Circle 113 on Reader Service Card

Stainless Steel Belting . . . to eliminate multiple handling of foods is described in information from Union Steel Products Co.

Circle 200 on Reader Service Card

Time Recorder and Totalizer . . . for production data on tape for any process or operation is described in brochure H offered you by Standard Equipment Corp.

Circle 102 on Reader Service Card

Hydraulic Fork Control . . . shifts and swings lift truck loads up to 20,000 pounds with safety. Complete data and information available from Swing Shift Mfg. Co.

Circle 189 on Reader Service Card

Pilferproof Packages . . . as well as time and money savings are claimed for a new steel strapping machine described in a new 36-page illustrated catalog offered you by Gerrard Steel Strapping Div., U.S. Steel Corp.

Circle 90 on Reader Service Card

Hand Lift Trucks . . . in 600 combinations of sizes and capacities, with tapered roller bearings, sealed-in lubrication and shock absorber release check, are detailed in complete truck index offered by Revolvator Co.

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Laminated Industrial Tires . . . designed to eliminate flats and bounce, give to prevent damage to loads and vehicles, are described in literature available from Notat Tire Co.

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Single-Engine Self-Propelled Crane . . . with torque drive and up to 20 tons capacity is fully described in bulletin L-302 produced by Unit Crane & Shovel Corp.

Circle 201 on Reader Service Card

All-Steel Toe and Dump Boxes . . . to automate mass production material handling and increase fork truck efficiency, in a complete system, are fully detailed in a new illustrated pamphlet available from Powell Pressed Steel Co.

Circle 161 on Reader Service Card

Demountable Truck Body . . . for plant refuse disposal, saves time and multiple handling, and simplifies plant housekeeping, according to data offered you by Ingersoll Kalamazoo Div., Borg-Warner Corp.

Circle 34 on Reader Service Card

Powered Lifting Tail Gate . . . for trucks from $\frac{3}{4}$ ton to semi-trailers, reduce handling costs, speed up deliveries and protect load and driver, are described in data from the Anthony Co.

Circle 12 on Reader Service Card

Engine Hour Meters . . . in direct-reading and pointer models for on-time maintenance to improve performance, reduce repairs and down time, and prolong equipment life, are detailed in data from John W. Hobbs Corp.

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Pneumatic Industrial Tires . . . for every type application, in many sizes and types are described in data available from Goodyear Tire & Rubber Co.

Circle 95 on Reader Service Card

"Stand-Up" Gas Truck . . . in models up to 3500 pounds capacity, with finger-tip controls, and high free lift are fully described in detailed folder offered you by Lamson Mobilift Corp.

Circle 125 on Reader Service Card

Self-Propelled Crane . . . lifts up to 12000 pounds, loads up to 100 cubic yards per hour is described in new illustrated folder provided by Schield Bantam Co.

Circle 177 on Reader Service Card

Bulk Conveyors . . . in many sizes, types and capacities to save space, cut maintenance costs and replace slower handling methods, are described in data available from Ajax Flexible Coupling Co., Inc.

Circle 19 on Reader Service Card

Steel Angle Framing . . . for racks, jigs, shelving, tables and conveyors, is said to be strong, rigid, easy to cut, simple to connect and reusable. Complete information in an illustrated folder available from Dexion Div., Acme Steel Co.

Circle 2 on Reader Service Card

Metal Conveyor Belts . . . of carbon, alloy or stainless steel in many designs and sizes are described in a new fully illustrated catalog offered you by Cyclone Fence Dept., American Steel & Wire Div., U. S. Steel Corp.

Circle 10 on Reader Service Card

Heavy-Duty Diesel Tractor Shovel . . . with 105 hp diesel engine, 2 $\frac{1}{2}$ cubic yard bucket, extra-long track and new hydraulic system is described in data from Allis-Chalmers Manufacturing Co.

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CATALOGS AND BULLETINS

Continued

Woven Wire Slings . . . in standard lengths with capacities up to 100,000 pounds, grip load with broad surface. You can get complete data from Cambridge Wire Cloth Co.

Circle 45 on Reader Service Card

Creped Kraft Barrier Wraps . . . greaseproof and moistureproof, to conform to Army-Navy specifications; complete test data and samples are offered you by Mid-States Gummed Paper Co.

Circle 145 on Reader Service Card

Tote Pans . . . to rack with adapters or stack without adapters are fully detailed in new catalog from Bathey Mfg. Co.

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Colored Lane Marking Stripes . . . to improve efficiency in your plant, pressure-sensitive tape in eight colors are detailed in folder produced by Minnesota Mining & Manufacturing Co.

Circle 146 on Reader Service Card

Industrial Hand Pumps . . . for most anything that pours, to prevent spilling, over-filling, dripping; delivers twenty gallons per 100 strokes. Literature available from Tokheim Corp.

Circle 195 on Reader Service Card

Grooved Wheel Casters . . . used in many industries to pare handling costs are discussed in data from the Bassick Co.

Circle 26 on Reader Service Card

Tape Dispensers . . . job-designed for fast, easy carton sealing in any shipping room are detailed in literature available to you from Derby Sealers, Inc.

Circle 59 on Reader Service Card

Stencil Cutting Machine . . . said to make stencils easier to cut six ways are described in data produced by Diagraph-Bradley Industries, Inc.

Circle 60 on Reader Service Card

Gas Fork Trucks . . . in 3000, 4000, 5000 and 6000 pound capacities, with six-months' warranty and a host of quality features are fully described in a specific bulletin from Baker-Raulang Co.

Circle 23 on Reader Service Card

Truck Floor Lock . . . fits five sizes of casters on scaffolds, portable benches, tool stands, floor trucks, lifters, scales, conveyors, engine stands. Information available from Presto Products Co.

Circle 127 on Reader Service Card

"Safety Belt" Paper . . . unitizes freight car loads, prevents damage and comes in 54 and 96-inch widths. Samples and new instruction bulletin offered by American Sisalkraft Corp.

Circle 9 on Reader Service Card

Compact Power Sweeper . . . cuts 28-inch swath seven times faster than by hand with vacuum-enclosed brush. Complete details offered you by G. H. Tennant Co.

Circle 192 on Reader Service Card

Industrial Trucks . . . used by 66% of the seventy-five largest U. S. manufacturers to cut handling costs, are detailed in a complete line catalog released by Elwell-Parker Electric Co.

Circle 68 on Reader Service Card

Rugged Electric Hoist . . . for simplicity and low maintenance, with low headroom, capacities from 2000 to 10000 pounds illustrated in bulletin 795 available from Detroit Hoist & Machine Co.

Circle 64 on Reader Service Card

Castors and Wheels with soft, medium or hard Neoprene rubber treads which resist steam, water, oxidation, oils, waxes and most chemicals are described in a new manual available to you from Darnell Corp.

Circle 58 on Reader Service Card

Aluminum Wheels . . . with tires bonded on, in wide range of spoke or disc models are completely detailed in illustrated brochure just released by Bronco Products Co.

Circle 40 on Reader Service Card

Automatic Coil Strapping . . . compresses wire tightly to save storage space, prevent snagging or tangling. Information provided by Signode Steel Strapping Co.

Circle 180 on Reader Service Card

Walkie Lift Truck . . . to move, stack, lift or lower heavy material within a plant; complete data on 23 models available to you from American Pulley Co.

Circle 149 on Reader Service Card

Front-Wheel Drive Tractor Shovel . . . in one-cubic yard capacity cuts handling time one-third, according to information available from Frank G. Hough Co.

Circle 106 on Reader Service Card

Steel Strapping . . . to protect valuable products is described in catalog SS-9C offered you by Stanley Steel Strapping Div.

Circle 184 on Reader Service Card

Floor-to-Floor Conveyors . . . eliminate most hand trucking, reduce floor area needed by two-thirds, and save man-hours. Details available from Standard Conveyors, Inc.

Circle 183 on Reader Service Card

Versatile Fibre Drums . . . of laminated kraft with metal bands protect the product for in-plant operations. Complete information can be obtained from Continental Can Co.

Circle 56 on Reader Service Card

Wagon-Mounted Crane . . . proved fast and versatile in many industries, according to information available from the Baldwin-Lima-Hamilton Div.

Circle 24 on Reader Service Card

Rubber Doors Protect Loads . . . improve insulation, reduce noise and injuries, claims data from Stic-Klip Manufacturing Co.

Circle 186 on Reader Service Card

12 Ways to Handle Rolls . . . are explained in data offered you by the Chicago Tramrail Corp.

Circle 55 on Reader Service Card

What to do About Difficult Docks . . . is the title of a new practical bulletin highlighting the uses of magnesium dock boards available to you from Magnesium Co. of America.

Circle 133 on Reader Service Card

Automatic Lift . . . handles loads from dock to truck, whether truck is above or below dock, handles loads up to 20,000 pounds. Detailed in bulletin provided by Field Engineering Products Co.

Circle 78 On Reader Service Card

Boxes with 'Stack-Ability' . . . are described in data available from Gayload Container Corp.

Circle 85 on Reader Service Card

Eight Features . . . of the battery-operated walkie type truck are explained in literature offered to readers by Moto-Truc Co.

Circle 147 on Reader Service Card

Fluid Drive Mobile Crane . . . in 1½, 2½, 5, 10 and 12½ ton capacities are described in new illustrated bulletin 79-D available from Silent Hoist and Crane Co.

Circle 181 on Reader Service Card

Pallet Racks . . . to reduce storage area, reduce personnel travel time and prevent damage, are featured in a new catalog published by Paltier Corp.

Circle 159 on Reader Service Card

Accurate Dynamometer . . . measures static or moving loads, in 13 capacities from 0-500 to 0-100,000 pounds. Illustrated literature and tensile strength computer offered you by W. C. Dillon & Co., Inc.

Circle 62 on Reader Service Card

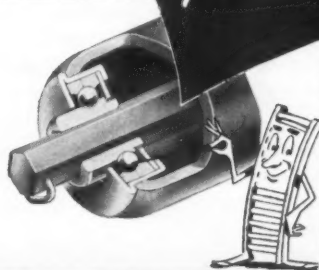
Label System . . . using labels prepared by accounting machine when invoicing, is said to save time and avoid errors. Brochure available from Sten-C-Lab, Inc. shows how shipping costs can be reduced.

Circle 185 on Reader Service Card

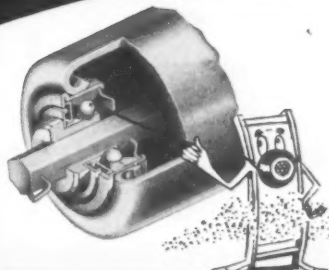
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BUSCHMAN ROLLER CONVEYORS

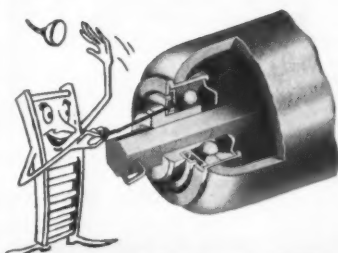
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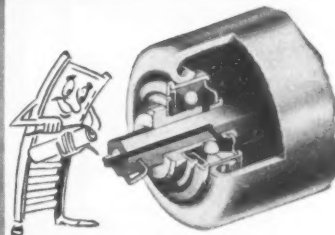
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Dustproof Labyrinth-Sealed Bearings



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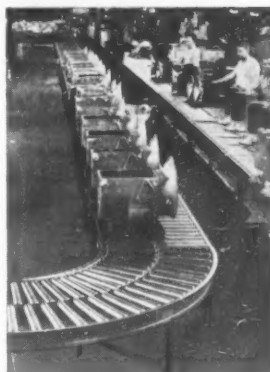


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TO MEET YOUR REQUIREMENTS

In roller conveyors, it's the bearing that counts! And BUSCHMAN conveyors use only performance-proven bearings... engineered for long life and trouble-free operation in every type of service. No matter what normal operating conditions may be, BUSCHMAN has a conveyor pre-engineered to meet your needs.

Conveyors are available with various types of rollers and frames, in different sizes and spacings, and in any width from 6 inches on up. BUSCHMAN can supply 45° and 90° curved sections, switches, spurs, work stations and other components to provide a complete, efficient materials handling system.



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A STEP

In The Right DIRECTION

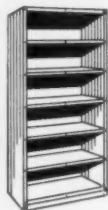
The customer who specifies Penco steel equipment has the assurance of highest-standard quality, skilled engineering and design . . . plus prompt service . . . which have built and maintained the reputation of Penco, a pioneer in sheet metal products for almost a century. For catalog, write Dept. F.

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STORES
PROCESSORS

Wherever
there is
need for
Durability
Flexibility
Efficiency
Appearance
and
Economy

penco STEEL LOCKERS

More than 60 types and sizes of Penco Perma-Built lockers give the answer to any and every problem of locker requirements.

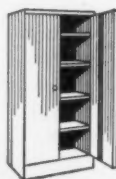


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More than 700 standard sizes of Penco adjustable steel shelving, with interchangeable parts, give efficient adaptation to your specific space needs.

penco STEEL CABINETS

Of heavy-gauge steel construction, with adjustable shelves, Penco's complete line of Quality cabinets—in varying heights—give the perfect answer to storage, wardrobe or other cabinet problems.



penco METAL PRODUCTS DIVISION
ALAN WOOD STEEL COMPANY

Oregon Ave. & Swanson St. • Philadelphia 48, Penna.

Circle No. 160 on Reader Service Card for more information

CATALOGS

Continued

Adjustable Storage Racks . . . interchangeable for pallets, bulk, skids or dies with respacing of vertical openings, fits fluctuating storage needs. Complete information available from Sturdi-Bilt Engineering Co., Inc.

Circle 188 on Reader Service Card

Crane Drive Units . . . of electric motor with fluid coupling, and gear reduction designed for crane and double beam propulsion. Booklet DH-431A offered you by Wright Hoist Div., American Chain & Cable Corp.

Circle 18 on Reader Service Card

Magnesium Dock Boards . . . with ten advantages to help reduce loading costs are fully described in bulletin DB-204 from Magline, Inc.

Circle 135 on Reader Service Card

Air-Cooled Engines . . . from 3 to 36 hp, in a full line of several models are detailed in bulletin S-188 offered you by Wisconsin Motor Corp.

Circle 208 on Reader Service Card

Up-and-Over . . . is the title of a 16mm sound film showing how monorail systems solve many tough handling problems. Allow three weeks to schedule showing. Available from American Monorail Co.

Circle 6 on Reader Service Card

Eliminates Engine Fumes . . . from both gasoline and L-P gas-powered equipment indoors to increase efficiency and safety. Complete information offered you by Oxy-Catalyst, Inc.

Circle 158 on Reader Service Card

Heavy-Duty Truck Batteries . . . with silvium grids, permanized negative plates and extra heavy connectors are described in bulletin 5161 available from Electric Storage Battery Co.

Circle 73 on Reader Service Card

Chainless Conveyors . . . with short radius turns, ball and socket universal joints, and catapillar drive are described fully in bulletin G-100 offered you by Landahl Conveyor Co.

Circle 7 on Reader Service Card

Concrete Storage Bins . . . for storage of all types of bulk materials and engineered to meet loading and unloading needs are described in folder from Neff & Fry Co. available to you.

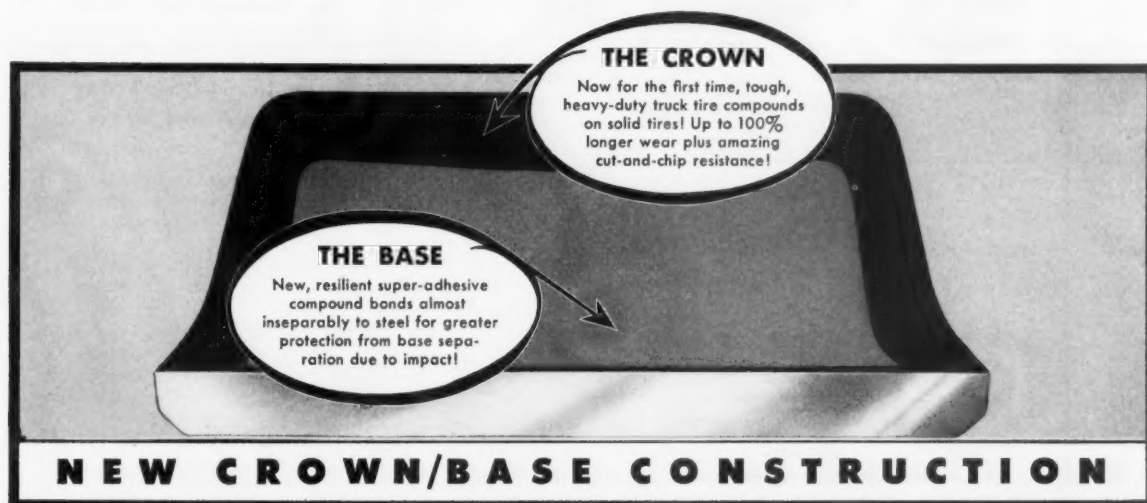
Circle 151 on Reader Service Card

**NEW!
DIFFERENT!
BETTER!**

U.S. ROYAL

**Crown/Base
INDUSTRIAL
TRUCK TIRE**

gives **TWICE** the **WEAR** at **NO EXTRA COST!**



You don't pay one penny more for this advanced new U. S. Royal. Yet it wears up to *twice* as long as ordinary industrial truck tires. In addition, the new U. S. Royal Crown/Base offers low rolling resistance, reduced power consumption. It provides increased stability for greater safety on high lift machines. And it meets every demand of power steering and automatic transmissions!



Greatest Cushioning Ever! U. S. ROYAL INNACUSH

the original cushion solid

Absorbs from 2 to 4½ times as much shock as competitive cushion tires... guards loads, trucks, drivers from impact and vibration... cuts your maintenance costs.

NEW—COMPLETE—FREE! WRITE TODAY!

Mr. J. C. Richardson
Industrial Tire Dept., U. S. Rubber
Rockefeller Center, New York 20, N. Y.

Please rush me your new, authoritative manual on industrial tires.

NAME.....

ADDRESS.....

CITY & STATE.....



SPECIFY U. S ROYAL AND SAVE!

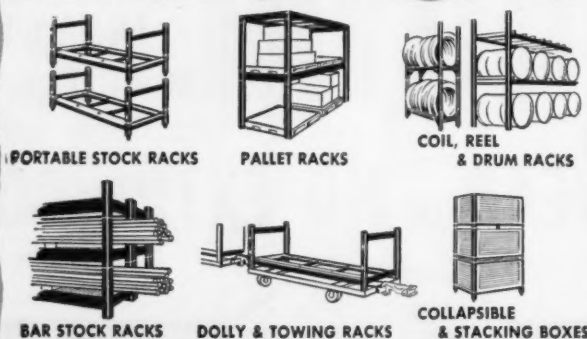
United States Rubber

Circle No. 202 on Reader Service Card for more information

APRIL, 1956

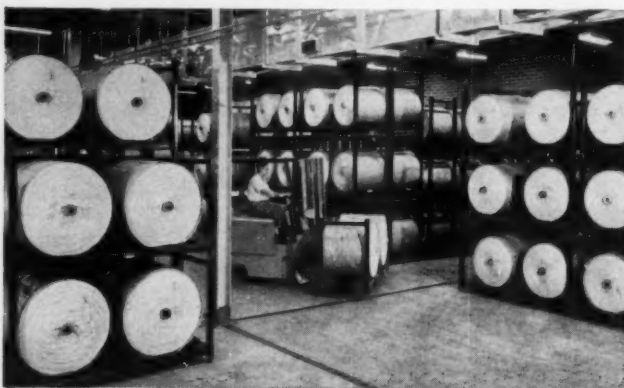
39

CAN STACK *ANYTHING* ON E.M.I. RACKS



*Protect workers and stock
keep your materials . . .
well stacked !*

Equipment Manufacturing storage racks that stack are fabricated of strong, square tubular steel and are adjustable to fit any space or unit load in your plant or warehouse. Special racks designed to your specifications. Field Engineering Service on any installation. Before you decide on a new warehouse, additional storage space or the purchase of stacking equipment, write for our catalog. You save money, space and time with E. M. I. racks.



E.M.I. Portable Stock Racks increase efficiency in storage and handling of thread at the plant of Coats & Clark, Inc., at Toccoa, Georgia.

Write for Catalog...

**EQUIPMENT
MFG. INC.**

21552 HOOVER ROAD • DETROIT 5, MICHIGAN

MATERIALS HANDLING EQUIPMENT

STACKING RACKS FOR INDUSTRY

Circle No. 70 on Reader Service Card for more information

CATALOGS

Continued

Lightweight Hydraulic Pallet Truck . . . with 2000-pound capacity, one-piece welded steel frame, dual-purpose brake, and pallet booster roll. Bulletin offered you from Raymond Corporation.

Circle 166 on Reader Service Card

Low Headroom Trolley Crane . . . overcomes headroom limitations without lowering runways, using standard units, as described in literature available from Euclid Crane & Hoist Co.

Circle 72 on Reader Service Card

How Systematic Care Adds to Battery Life . . . is the subject of data offered you by Gould-National Batteries, Inc.

Circle 97 on Reader Service Card

Truck Tiers in Narrower Aisles . . . than its own length with load, with 200° turning arc, 51-inch free lift for increased storage. Bulletins on 2000- or 3000-pound capacity models offered you by the Raymond Corporation.

Circle 167 on Reader Service Card

Metal Tote Boxes . . . of heavy-gauge steel or aluminum, in a range of styles and sizes, with perforated or expanded metal bottoms. Complete data available from Randolph Industrial Equipment Co.

Circle 164 on Reader Service Card

Marking Attachment . . . imprints codes, numbers, brands automatically, designed for easy installation on conveyor lines, case sealers. Descriptive literature offered you by Adolph Gottsch, Inc.

Circle 96 on Reader Service Card

Electric Trucks . . . new 16-page catalog illustrating and describing a complete line of electric-drive trucks for every handling need is offered you by Automatic Transportation Co., celebrating its 50th anniversary this year.

Circle 16 on Reader Service Card

Truck Winch . . . with 7000-pound capacity and aluminum alloy housing, with all moving clutch parts enclosed in oil to prevent sticking, freezing or rusting and keep weather out. Specifications available from Gar Wood Industries, Inc.

Circle 84 on Reader Service Card

(Continued on page 142)

Circle No. 24 on Reader Service Card →

PROOF OF **LIMA** QUALITY



"A versatile, fast-moving wagon mounted **LIMA** Crane solved our materials handling problem"

reports *R. E. Fisher, President, The Bonney-Floyd Co.*

Back in 1949, the Bonney-Floyd Company, Columbus, Ohio, foundry, faced a growing materials handling problem. Increasingly diversified production called for a wide variety of casting flasks to be stored in large quantities in the plant yard. They picked a wagon mounted Lima Type 34 crane to solve the problem of handling and stacking the flasks.

Bonney-Floyd's president, Mr. R. E. Fisher, states: "We found that the Lima gave us greater storage flexibility . . . compared to such alternate facilities as a fixed overhead runway crane. The Lima's mobility made possible a storage arrangement with convenient separation of sizes, types and quantities of flasks. The machine's excellent travel speed is important because storage is spread over a large area."

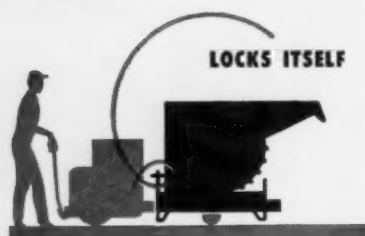
Mr. Fisher concludes, "Six years of efficient, trouble-free service have proved our Lima the ideal answer to our yard materials handling problem. We've even been able to use it effectively for such *extra* jobs as unloading gondola cars, transferring loaded trailers and lifting materials for casual structural work."

If you have a materials handling problem, it will pay you to check the complete line of wagon, truck or crawler mounted Limas . . . designed and built with the emphasis on quality to give you perfect performance on every job. See your nearby Lima distributor, or write Construction Equipment Division, Baldwin-Lima-Hamilton Corporation, Lima, Ohio.

DISTRIBUTORS IN PRINCIPAL CITIES OF THE WORLD



LIMA SHOVELS • CRANES • DRAGLINES • PULLSHOVELS
BALDWIN-LIMA-HAMILTON
 Construction Equipment Division • LIMA • OHIO • U. S. A.



makes every truck a dump truck!

Fits securely on any standard fork or platform lift truck . . . can't slip off. Pick-up is quick and easy. Insures fast, efficient handling of any wet or dry, hot or cold bulk materials. *Cuts hand unloading by at least 50% . . . with maximum safety.*

This rugged Roura Self-Dumping Hopper is built like a battleship . . . extra heavy gauge welded construction . . . to withstand the terrific knocks and bangs of rough usage. Good for years of dependable service. Available in sizes from $\frac{1}{2}$ to 2 cubic yards.

Thousands of these time-and-money-savers are now in use by America's biggest industries. Let us show you how they can help cut your costs, too.

ROURA *Self-Dumping* **HOPPER**

HERE . . . is the easy way to get full details about Roura Self-Dumping Hoppers. Just clip this coupon to your letterhead . . . sign your name . . . and mail to . . .

ROURA IRON WORKS, INC.

1411 Woodland Ave., Detroit 11, Michigan

CALENDAR OF EVENTS

April 3

The Material Handling Institute
Edgewater Beach Hotel
Chicago, Illinois

April 9-12

National Packaging Exposition
Convention Hall
Atlantic City, New Jersey

April 18-19

Caster & Floor Truck Manufacturers'
Association
LaSalle Hotel
Chicago, Illinois

April 23-May 4

British Industries Fair
Castle Bromwich
Birmingham, England

May 9-11

Western Material Handling Show
Western Livestock Exhibition Auditorium
Los Angeles, California

May 9-19

Mechanical Handling Exhibition & Convention
Earls Court
London, England

May 14-17

Design Engineering Show
Convention Hall
Philadelphia, Pennsylvania

May 17-19

7th National Conference and Convention of the American Institute of Industrial Engineers
The Shoreham Hotel
Washington, D. C.

June 5-8

The Material Handling Institute's
Exposition of 1956
Public Auditorium
Cleveland, Ohio

June 12-15

Annual Cornell University Industrial Engineering Seminars
Ithaca, N. Y.

July 10-12

6th Western Packaging and Material Handling Exposition
Pan Pacific Auditorium
Los Angeles, California

October 10-12

The Material Handling Institute's
Fall Meeting
The Traymore Hotel
Atlantic City, N. J.

GRIPPER SLINGS for faster, safer handling

MADE OF WOVEN WIRE—Thousands of sturdy wire strands woven in a smooth transverse-loop construction combine the strength of steel with exceptional load stability of an extra broad bearing surface. Gripper Slings give you maximum capacity and flexibility with minimum load damage. There's no whipping, kinking or tangling—slings stay where they're put for easier loading, safer maneuvering and compact storage. No sharp loose strands to snag load or operator.

SPECIAL COVERINGS . . . Neoprene and other plastic materials are available to assure scratch-free handling of the most highly finished materials—even milled and machined parts.

Easy to use in BASKET or CHOKE HITCH



Gripper Slings, **PRETESTED** to meet loading specifications, are available in standard lengths and widths with capacities up to 100,000 lbs.—special sizes on request. See your materials handling or mill supply distributor for a demonstration. **OR, write direct for FREE catalog and name of nearest distributor.**



The Cambridge Wire Cloth Co.

Dept. W • Cambridge 4, Md.

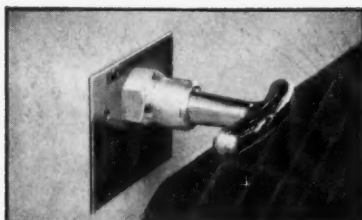


OFFICES IN PRINCIPAL INDUSTRIAL CITIES

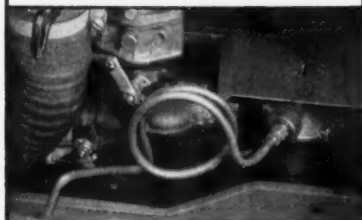
DISTRIBUTORS—write for open territory data!

Circle No. 45 on Reader Service Card
FLOW

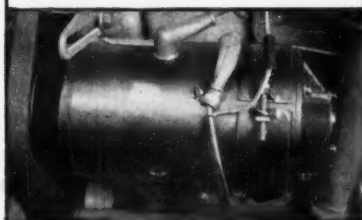
Circle No. 171 on Reader Service Card
42



Emergency cutout switch breaks all electrical contacts in system.



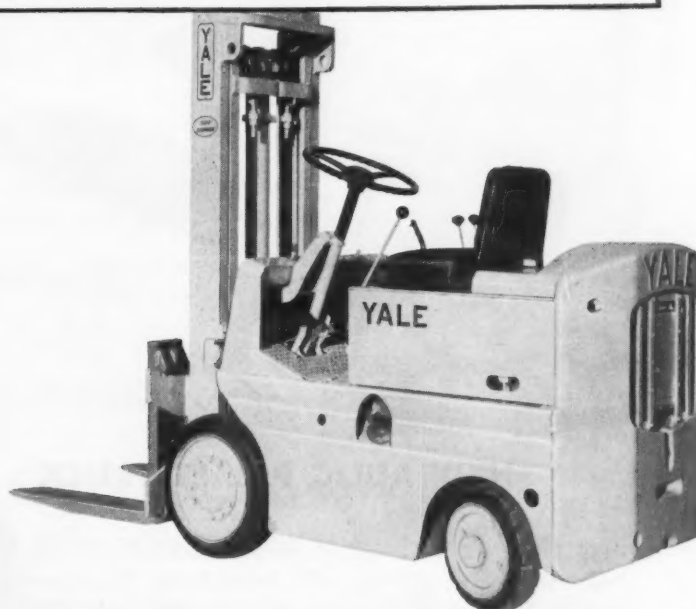
Fuel system designed to eliminate syphoning.



Generator and starting motor are totally enclosed.

The only Gas Truck safe enough to get GS Approval!

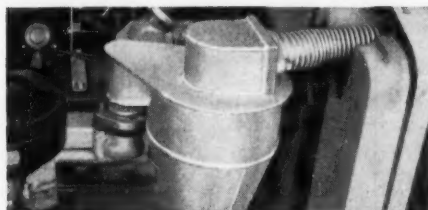
YALE KG51 SERIES



POSITIVE EXHAUST CONTROL



Flame suppressor (top) and cyclone muffler (bottom) prevent emission of hazardous sparks and flames.



The Yale KG51 Series Gas Truck is the only truck of its type that is GS Approved by Underwriters' Laboratories (U.L. File No. AU-1572). It satisfies all the requirements of the National Fire Protective Association for safe use where combustible fibers or containers of hazardous liquids or gases are being handled in storage. Incorporated into the design are all of the safety features required by Underwriters' Laboratories GS specifications, including those shown at left.

Immediate availability! Yale KG51 Series Gas Trucks—with GS Approval and all the famous Yale engineering features that make Yale trucks the smoothest handling lift trucks ever built—are immediately available in capacities of 3,000 to 10,000 pounds. Send for full facts today about engineering details on Yale Gas Trucks with GS Approval. Write: The Yale & Towne Manufacturing Company, Philadelphia 15, Pa., Dept. 44.

YALE*

*REG. U. S. PAT. OFF.

INDUSTRIAL LIFT TRUCKS AND HOISTS

Gas, Electric, Diesel, LP-Gas Industrial Lift Trucks • Worksavers • Warehouseurs • Hand Trucks • Hand and Electric Hoists
Circle No. 211 on Reader Service Card for more information

APRIL, 1956

43



HYDRAULIC PALLET TRUCK

- INVEST IN THE BEST when buying a lift truck . . . get a Raymond Lightweight Hydraulic Pallet Truck. This superbly built truck is rightly the world's most popular, has 2,000 lb. load capacity.
- Aluminum alloys make it lightweight, easy to pull, yet plenty rugged. Frame is one-piece welded steel. Foot pedals lift and lower your loads. Has safe, dual-purpose brake plus patented booster roll to provide effortless pallet entry. Completely precision hydraulic for dependable operation. Years of use and abuse have proved it to be the best pallet truck money can buy.

MAIL
THIS
COUPON

Visit Booth 1122 Material Handling Show,
Cleveland, June 5-8

The RAYMOND CORPORATION

3388 Madison St., Greene, N. Y.

Send latest Bulletin on Raymond Lightweight Hydraulic Pallet Truck.

☐ Check if you wish representative to call.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

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ASSOCIATION and SOCIETY NEWS

● The American Material Handling Society, Inc., has announced the Fourth Annual Clark Equipment Company's Award, which is granted by the Material Handling Division of the Clark Equipment Company. Theme selected for this year's papers is "Material Handling in 1966", and the deadline for entries is April 25.

● Four additional speakers have accepted invitations to the American Material Handling Society's Technical Sessions in Cleveland, June 5-7. H. B. Maynard, Methods Engineering Council, will speak on "Work Measurement and Material Handling". Alan H. Mogenson, Work Simplification Conference, will speak on "Work Simplification and Its Use in Material Handling". Fred V. Gardner, Fred V. Gardner Associates, will speak on "Analyzing Material Handling Costs". Dr. Lillian Gilbreth will discuss "The Relation of Industry to Education and Training".

● Professor V. Donald Schoeller discussed "The Need for Management Coordination in Material Handling Decisions" at the recent meeting of the Cleveland Chapter, American Material Handling Society. Professor Schoeller, formerly Director of the Taylor Management Laboratory and the Annual Wharton School of Commerce Refresher Conference, is now an Associate Director of the Management Development Program at Case Institute.

• J. D. Bronson, Cascade Lumber Company, was elected president of the National Wooden Box Association at the group's recent annual meeting in Houston. He succeeds L. J. Chaffee, Chaffee Brothers Co. John M. Nelson, III, The Nelson Company, was elected to a vice presidency. The following officers were re-elected: Thomas Munroe, Moraine Box Company, vice-president; Arthur Temple, Jr., Temple Associates, vice-president; C. D. Hudson, executive vice-president; H. R. Hudson, secretary; and P. John Galbraith, John Galbraith, treasurer.

• George Greenberger, president of Sage Equipment Company, Inc., was elected to the board of Directors of the Material Handling Institute, Inc. Simultaneously, he was appointed chairman of the Conveyor Section of the Institute.

• The Packaging Machinery & Materials Exposition of 1956, to be held in Cleveland, September 11-14, will be devoted exclusively to packaging machinery and materials, according to its sponsor, the Packaging Machinery Manufacturers' Institute. Emphasis is to be placed on new developments and demonstrations by technicians.

• John H. Lewis, Lewis-Shepard Products, Inc., spoke on "The Responsibilities of the Material Handling Manufacturer" before a recent meeting of the St. Louis Chapter of the American Material Handling Society, Inc. He pointed out that users must depend more and more upon the material handling manufacturer for guidance on what to use and how to use it. Therefore, he said, it is the manufacturer's responsibility to insure that their customers use this equipment properly.

Almost 7-Ft. long . . . yet it TIERS IN 6-FT. AISLES!

Visit Booth 1122 Material Handling Show,
Cleveland, June 5-8



RAYMOND

Electric
TIERING TRUCK

Gives you up to
50%
more storage space

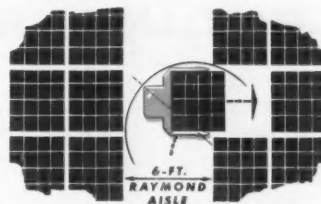
• IT'S MAGIC the way this **RAYMOND** Truck tiers in aisles narrower than its own length with load!

Yet, day after day this truck does just that in hundreds of plants and warehouses.

HERE'S THE SECRET . . .

The RAYMOND Truck is extremely compact, has a patented off-set drive wheel with 200° turning arc. This permits it to right-angle stack from 6-ft. wide aisles . . . gives you up to 50% more storage.

Its light weight allows safe operation on low-capacity elevators and floors. 51" free lift enables it to tier in low-ceiling areas without increasing overall height.



NEW LEASE-PURCHASE PLANS!
Now it's easy for you to own or lease any RAYMOND Electric Truck. Three new plans permit you to rent or purchase over 1 to 3-year periods. Ask your RAYMOND representative about these plans!

**SEND FOR
BULLETIN**

RAYMOND

Electric Industrial Trucks
Hydraulic Elevating Equipment

PATENT NO. 2,564,002

The **RAYMOND CORPORATION**

3364 Madison St., Greene, N.Y.

- ☐ Please send Bulletins on 2,000 and 3,000 lb. Tying Trucks.
☐ Please have your representative call.

NAME _____ TITLE _____

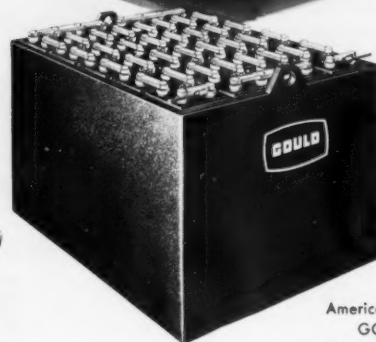
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"You Get Extra Battery Performance -



America's Finest
GOULD
Industrial Truck Batteries

THANKS TO GOULD FIELD ENGINEERING SERVICE!"



It's a proven fact that regular, systematic battery care can add months, perhaps years, to the life of a battery! Gould's nation-wide Field Engineering Service enables you to get the benefit of this added service . . . and lower your over-all battery power costs.

Your Gould Field Engineer's one job is to see that you get maximum service from your batteries. He is factory-trained to instruct your own men as to correct maintenance routines and to help set up a simple record system for anticipating battery needs.

There's a Gould Field Engineer in your area. He's as near to you as your telephone. Call him. And when you see him, ask him for the new Gould Plus-Performance Plan material for your battery maintenance staff.

Always Use Gould-National Automobile and Truck Batteries

GOULD Batteries

GOULD-NATIONAL BATTERIES, INC.
TRENTON 7, N. J.

"BETTER BATTERIES THROUGH RESEARCH"

©1955 Gould-National Batteries, Inc.

Circle No. 97 on Reader Service Card for more information



Dead weight characteristic of conventional wood and steel trucks is eliminated by Magcoa/Tobey lightweight aluminum construction—weight cut as much as 50-80%.

Now—a cost-cutting opportunity long overlooked by truck manufacturers and users

Magcoa/Tobey aluminum trucks eliminate dead weight ... are easier to move ... cheaper to operate!

If you use trucks we urge you to face the real facts about truck costs. Compared to powered equipment, any manual truck you buy is low in price; but price is not important. The *real* cost of a truck is the cost of moving it!

Magcoa/Tobey aluminum trucks are lighter than conventional wood and steel trucks of equal capacity and bed size—weight is cut as much as 50 to 80%. This means quicker, easier starting, steering and stopping—more trips in less time, with less worker fatigue. It means more efficient use of expensive manpower—an efficiency bonus which repays your investment many times over.

Whether you use one truck or one hundred trucks it will pay you to investigate these work-saving, money-saving Magcoa/Tobey features...

- **Weight Savings**—Magcoa/Tobey trucks are built of high strength, low weight aluminum. Weight cut as much as 80%.
- **Flexible Bed Construction**—Special aluminum extrusions engineered to protect loads, increase stability; ease shock on casters and floors.
- **Maintenance—Practically None**—Aluminum is easy to clean and keep clean; no painting. Non-magnetic, non-corrosive, non-toxic; doesn't absorb moisture or odors.
- **Wheels, Tires for Every Job**—Aluminum or plastic wheels; your choice

of molded-on-rubber, zero-pressure or pneumatic tires.

- **Wide Range of Styles, Sizes**—Hundreds of standard models are available. Engineering know-how will solve your "special model" problems, too.



Revolutionary swivel casters increase efficiency ...

minimize maintenance

Assures easiest possible maneuverability and free-swivel action under full load. Assures complete freedom from bind and annoying wobble; minimizes maintenance and solves replacement problem.

There is something new in trucks.

Get the full facts.

Alert companies in a score of industries have switched to Magcoa/Tobey alu-

minum trucks. Many of them bought one truck on a "try it and see" basis. Why don't you do the same thing? It costs so little to prove to yourself that Magcoa/Tobey trucks do more work in less time, with less worker fatigue and with negligible maintenance.

Write for the full facts. A new Data File shows the dozens of Magcoa/Tobey types and hundreds of sizes available to help you cut your handling costs. Available on request, without obligation. Use the handy coupon.

MAGNESIUM COMPANY OF AMERICA

TOBEY ALUMINUM DIVISION

East Chicago 1, Indiana

Representatives in Principal Cities

☐ Please send Magcoa/Tobey Data File

Name and title _____

Company _____

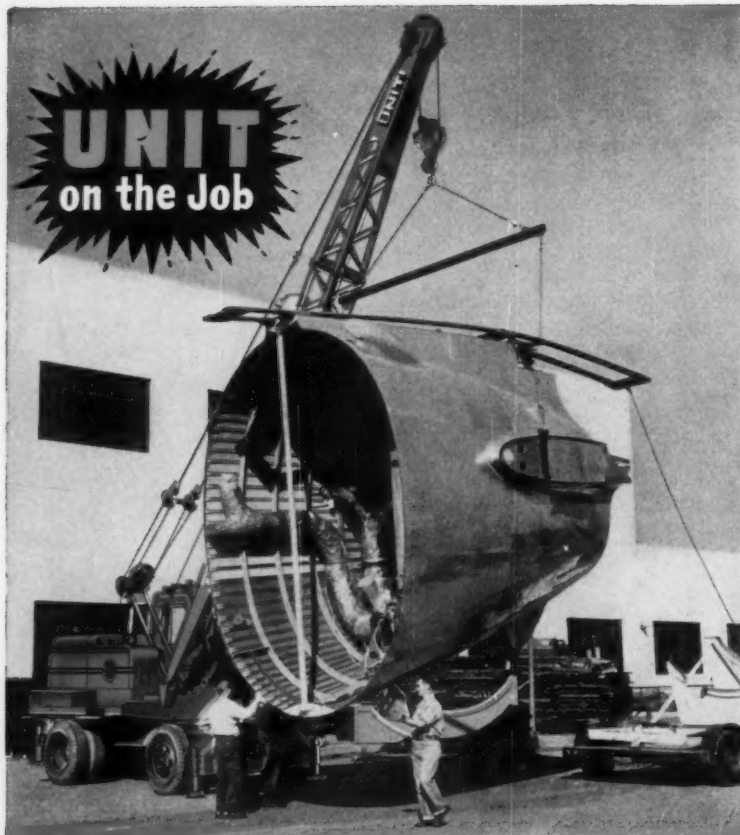
Address _____

City-Zone-State _____

Copyright, 1956, Magnesium Company of America

Circle No. 134 on Reader Service Card for more information

UNIT
on the Job



picking up a "stub" the easy way

Typical of the powerful "pick-up" ability of UNIT Cranes is the above performance . . . loading a giant aerial "fish" or tail-stub assembly onto a truck trailer. Inside this huge stub, two jet-like gasoline heaters will be installed, with heating capacity comparable to that required to heat 12 six-room homes! UNIT torque drive provides full, steady, nonstalling power . . . greater lugging power . . . elimination of shock loads on machinery. It will pay you to investigate these and other UNIT advantages. Write for Bulletin L-302.

UNIT CRANE & SHOVEL CORP.
6531 West Burnham Street • Milwaukee 14, Wisconsin



357 Mobile UNIT
the ONE-engine, ONE-man Unit . . . self-propelled, travels anywhere, rides on rubber, quickly convertible, fast, reliable.



**1/2 or 3/4 YARD EXCAVATORS...CRANES UP TO 20 TONS CAPACITY
CRAWLER OR MOBILE MODELS . . . GASOLINE OR DIESEL**



All Models Convertible to ALL Attachments!

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HIGHLIGHTS of the month's NEWS

Obsolescence By Economics

What the "surprises" will be at the coming Material Handling Institute Exposition (June 5-8, Cleveland) is anybody's guess. Ours is that, among others, there will be some radical innovations in equipment design.

For one type, the word around the trade is that practically every producer of fork trucks has been engaged in a heavy developmental program. Secret, of course. But it seems the usual leaks have occurred. In 1956-57 models of industrial trucks, we believe you'll find more safety features; greater accessibility for maintenance; simplified operation; and increased comfort for operators.

Our guess is that one of the major changes will involve the tightening of turning radii. How this will be accomplished without sacrificing load capacity, only the designers know—but if some trucks are built to carry the load *over* the driver rather than in front of him, we won't be surprised.

Why? Primarily to conserve an increasingly valuable industrial commodity—revenue space.

Other means of turning "wasted" cubage into useful space will possibly turn up at the show. We know they are desired, that manufacturers of handling equipment have them now in actuality and under consideration. They will take careful investigation in light of your current and future needs—especially if your current systems and equipment have been installed recently and at considerable expense. The profit potentials may be great enough to warrant "scrapping" a currently working system for another concept, but that is not new to enterprising, aggressive American business.

It is, though, in a state of acceleration as competition for big markets and better labor stays high.

Such rapid write-offs, such need for greater changes indicate that a relatively new economic attitude is well developed.

It might be called, "obsolescence by economics." It is a sign of increasing recognition for high-level integration of all business thinking. It is a factor that will be of great importance in the years ahead if the national economy is to be maintained at the high level to which we have become so comfortably accustomed.

A 5200 Percent Improvement

It has been said that the story of steel is the story of America. And why this might be further refined to read, "The story of steel wire . . .", was explained at a recent luncheon in Cleveland.

The occasion was the celebration of the 125th birthday of the steel wire industry in the United States. Hosts were officers of the American Steel and Wire Division of U. S. Steel Corp.

It was pointed out that, in the first successful wire drawing operation in America, in a plant just outside Worcester, Mass., a crude wire was produced at the daily rate of 50 pounds per man. This involved prodigious labor which earned a seasoned workman a dollar for a 14-hour day.

Last year, the steel wire industry turned out over 5.5 million tons of high-quality products, and the average wage was \$21.27 for an eight-hour day—plus numerous fringe benefits. And most of the muscle-power had been mechanized out of the job.

Here's another way to look at it . . .

Piano wire sold for \$1 a pound in 1850. Today, a vastly superior product can be bought for 70 cents a pound. In 1850 a man had to work at hard labor for 14 hours to earn enough to buy a pound of piano wire. Now he earns enough in 16 minutes to buy the best there is. And that, if you want to figure out the arithmetic, amounts to an improvement of 5200 percent.

Ed Lighter

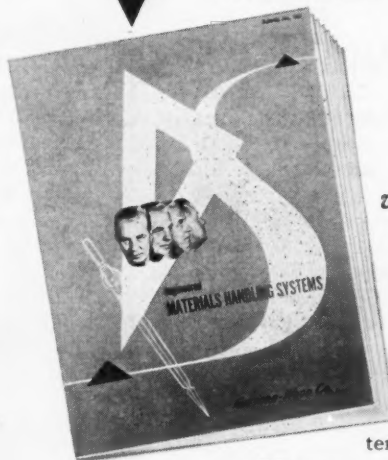
APRIL, 1956

FREE!

*to executives . . . engineers . . .
supervisors*

This 32 Page Idea Book on Materials Handling

will spark your thinking



Need a system to lower $\frac{3}{4}$ -ton newsprint rolls . . . or to handle sheet steel . . . or bulk chemicals, coal, textiles, grain, foundry materials—almost anything at all?

Whatever you have to move . . . and whatever the direction—up, down, or horizontal—you'll find lots of answers in this factual, fully-illustrated book. It's crammed with photos, engineering drawings, basic information about a broad range of materials handling problems.

You'll see, for example, how G-W developed a "ferris wheel" system that moves both 1300-lb. beams of rayon and 900-lb. box trucks up or down 6 stories *completely automatically* for annual savings of \$25,000!

You'll read of the can manufacturer who needed a system which would automatically feed, lower and discharge 2500-lb. bundles of sheet steel—and installed a G-W system which resulted in 87% savings in handling time.

But these cases are just two among hundreds which G-W has solved.

If your problem is materials movement, write today for this big, free Idea Book that tells exactly how G-W's 142 years of engineering and fabrication experience can serve you.

GIFFORD-WOOD CO.

Since 1814 • Hudson, N. Y.

Branches: New York, Chicago, St. Louis • Representatives in principal cities

GIFFORD-WOOD CO., HUDSON, N. Y.

Yes, please, send me your Free Idea Book on Materials Handling.

Name _____ Company _____

Address _____

City _____ Zone _____ State _____

Circle No. 91 on Reader Service Card for more information

MEN

in the

NEWS



Myron W. Rhoten

At Allis-Chalmers Mfg. Co. . . . **Myron W. Rhoten**, who has been European Territory Sales Manager for the Tractor Group in Milwaukee since February, 1953, will be Managing Director of Allis-Chalmers Great Britain Limited, wholly-owned Allis-Chalmers subsidiary with headquarters in Essendine, England. Rhoten joined Allis-Chalmers in 1938 at its Sioux City, Iowa Branch.

At Yale & Towne Manufacturing Co. . . . **Carl O. Hedner** has been named assistant general sales manager of the Materials Handling Division. He has been a sales executive of the company for 33 years, sales manager of hoisting equipment since 1931. Hedner is also a director of the Material Handling Institute and the American Supply and Machinery Manufacturers Association, a past president and member of the Electric Hoist Manufacturers Association.

At Parker Sweeper Co. . . . **Ned Woolums**, plant superintendent since 1950, has been promoted to vice president-manufacturing, and **Paul R. Reaver**, assistant plant superintendent, to plant superintendent. Both promotions were announced by **R. W. Parker**, vice president and general manager.



Lornts B. Nilsen

At Lewis-Shepard Products, Inc. . . . **Lornts B. Nilsen** has been appointed Chief Engineer. The announcement was made by **F. J. Shepard, Jr.**, treasurer. Nilsen has been chief engineer of the Compo Shoe Machinery Corp. since 1953. Prior to that time he was associated with the Pioneer Electronics Corp. He is a member of the American Ordnance Assn. and the American Society of Technical Engineers.

At Jones & Laughlin Steel Corporation Formerly superintendent of the Kansas City Container Division Plant, **William T. Buchanan** has been promoted to Assistant manager of operations of the J&L Container Division in New York City. **Walter C. Grantham**, former division industrial engineer in New York, succeeds Buchanan as plant superintendent at Kansas City.



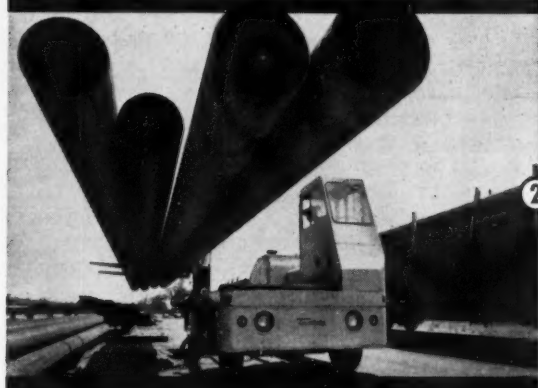
Robert C. McDowell

At The Wellman Engineering Co. . . . **Robert C. McDowell**, elected president, succeeds **Dr. J. C. Hodge**, who resigned from both the Wellman presidency and board. Also president of McDowell Company, Inc., McDowell became chairman of the board of Wellman in 1954 when McDowell Company acquired about 90 percent of the former company's outstanding stock.

At Greer Hydraulics, Inc. . . . Appointment of **John Farley** as director of public relations has been made by **Robert P. Lord**, executive vice president. Formerly an account executive in the publicity and public relations department of Kenyon & Eckhardt advertising agency, Farley will head marketing and institutional public relations, advertising, promotion and technical information activities of Greer. The firm specializes in hydraulics systems, components and devices, and testing equipment for general industry and aviation.

At Appleton Electric Company. . . . **Arthur I. Appleton**, president, has announced that the board has named as executive vice president **I. W. Strong**, former assistant to the president. Strong has been with the company since '51. In other Appleton promotions, **Wade H. Schroeder** has been made treasurer; **Elmer V. Aldridge**, assistant vice president-sales—to assist **Frank W. Wehrheim**, who was re-elected vice president-sales—and **Miss Myrtle E. Schreiber** has been re-elected secretary of the company.

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①

AUSTIN-WESTERN HYDRAULIC CRANE

In addition to power steering, Vickers Oil Hydraulics provide fast, smooth and positive (a) turntable rotation, (b) boom elevation, (c) raising and lowering of load, (d) extending and retracting of boom.

②

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Vickers Hydraulics provides power steering and multiple movements that enable Traveloader to quickly reach out sideways and pick up a long load, place it on the vehicle's deck for traveling, and then stack it up to 12' high.

③

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Vickers Hydraulics operates the reversible conveyor floor that permits fast and easy trim when loading, and then rapid dumping. Also has Vickers Hydraulic power steering for shuttle operation.

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3 GOOD REASONS

FOR SPECIFYING

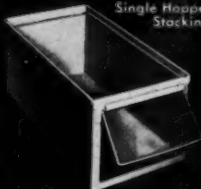
RAN^{*}tote

ALL-STEEL CONTAINERS

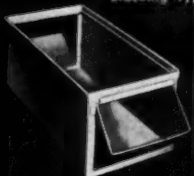
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- better quality
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RANtote steel containers cut production costs first by cutting material handling costs! Rugged construction of heavy gauge steel withstands long, rugged abuse from every handling and production job. Available in a complete range of sizes, or modified as required in any quantity AT LOWEST COST!

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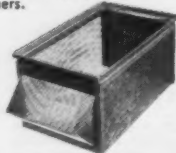
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EXPANDED METAL BOX
Ideal for degreasing.
Eliminates changing containers.



Available in All Styles

RANtote No. 877



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RANracks No. 900 Series. Individual stacking racks from flexible stockroom units. FOR ALL STYLES.

- RANtote No. 877 Standard in Perforated or Expanded Metal Bottom.
- All Styles Available in Standard Steel Construction or Aluminum as Required.
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52

MEN IN THE NEWS

Continued

At United States Steel Corp. . . . Richard Kimmel is now the administrative assistant to Roy E. Pinniger, vice-president and general manager of the Cyclone Fence Dept. of American Steel & Wire Division. Kimmel was formerly staff assistant to President Walter F. Munford of U. S. Steel Corp.'s Cleveland headquarters. He has been with the Wire Division since 1949.

At Hewitt-Robins, Inc. . . . Martin Vander Laan has been appointed manager of operations of the engineering division. He joined the company in 1934 as a junior draftsman and has worked in every phase of conveyor design and construction in this country and abroad. He recently served as a consultant to the U.S. Government's Foreign Operations Administration and made two trips to Europe and Africa to survey the mining and transportation of chrome ore, a strategic defense item.

At The Celotex Corporation. . . . Richard H. Thompson, Jr., has been elected secretary of the corporation by the board of directors, as announced by Otis S. Manshell, president. He succeeds Choate W. Johns, who becomes treasurer of the company, following retirement of Alfred I. Schimpf. With Celotex since 1942 except for service in the Marine Corps., Thompson became assistant to the president in 1947.

At Stewart-Warner Corporation . . . John W. Hobbs, president of the John W. Hobbs Division of Stewart-Warner, has been elected to the board. The Hobbs Division, which became a property of Stewart-Warner in July, 1955, manufactures, in addition to a wide variety of automotive equipment, Hobbs engine hour meters for industrial vehicles.



John W. Hobbs

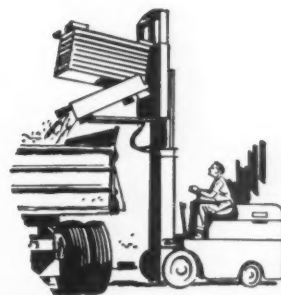
At Goodyear Tire & Rubber Co. . . . H. A. Flannery, manager of engineering, has died of a heart attack. A 39-year Goodyear veteran, he had been responsible for planning and supervising construction of manufacturing plants and other properties of the worldwide Goodyear organization, and he had been working on a current \$14 million expansion program at the time of his death.

(Continued on page 150)

FLOW

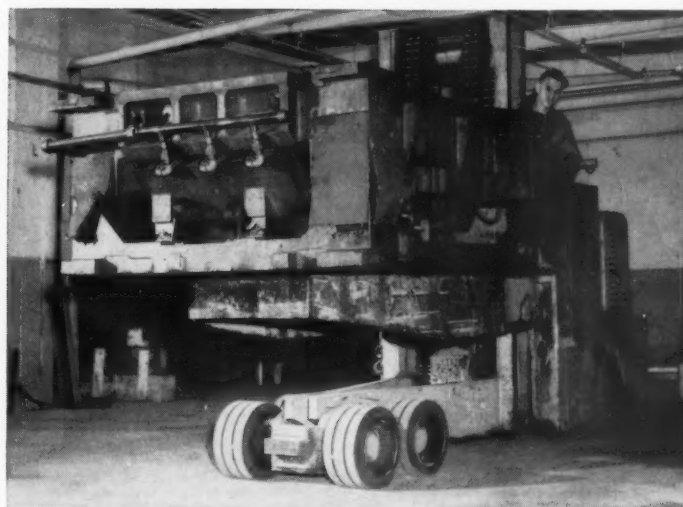
B.F. Goodrich

Materials Handling News and Views

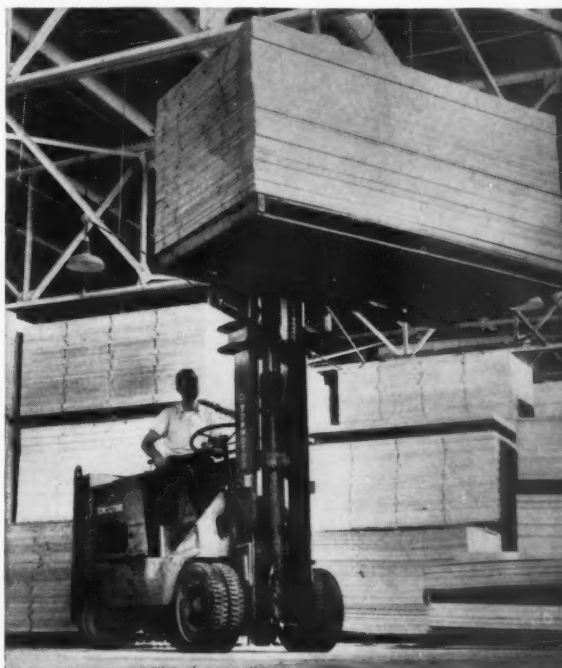


This truck goes everywhere—thanks to its tires—The B. F. Goodrich Tire and Wheel Analysis man knew this job required traction, but he also knew dock areas and factory yards can quickly destroy pneumatic tires. That's why he recommended Pressed-On Deluxe Cushion Lug tires that give maximum traction without the danger of flats.

500 hours' service and the tires "fell apart"—Maintenance men at a large Cleveland forge plant found industrial tires in heavy-duty service were "falling apart" after only 500 hours. They called in the local B. F. Goodrich Tire and Wheel Analysis man, who recommended new Pressed-On Deluxe Cushion tires with oil-resisting compound. Result: tire life increased over 500%.



Typical problem: moving a 7-ton door die—In the complex materials handling set-up at Willys Motors Toledo plant, virtually every threat to tire life can be found. That's why the company had a B. F. Goodrich Tire and Wheel Analysis man study its 2,000 units, loads, hauling surfaces, etc. The result: "Industrial tires give us far longer, trouble-free service—and this saves us money."

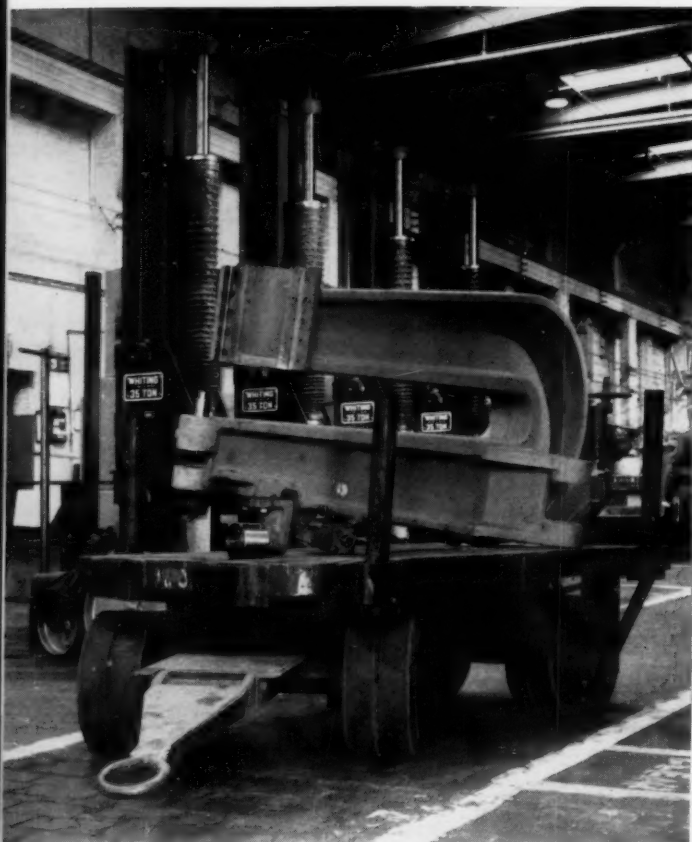


Why pneumatic tires here? Giant loads carried over smooth floors move faster on pneumatic tires. Time and labor costs are cut with pneumatics because bigger loads can be hauled.

more →

B.F. Goodrich

industrial tires at work



Switch to rubber tires saves \$1,000 a year—Whiting Corp. of Harvey, Ill., used steel wheels on trailers carrying 10,000-pound loads. Aisle maintenance cost about \$1,000 a year. Trailer maintenance added more. Then they took the advice of the BFG Tire and Wheel Analysis man and switched to pressed-on tires. Since then there has been no trailer maintenance and aisle repairs have been negligible.

Specify
B. F. Goodrich tires
when ordering
new equipment



The B. F. Goodrich Company
Tire & Equipment Division
Department TW- 574, Akron 18, Ohio

I would like further information on your
FREE TW Analysis Plan.

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Why Bower Roller Bearing Co. is 100% BFG—25 to 30 materials handling units haul raw materials, finished products and scrap at the Bower Roller Bearing Co., Detroit. And all these jobs are done on B. F. Goodrich industrial tires because they do a better job of combating iron and steel scrap and oily floors, says Plant Superintendent A. F. Madison.

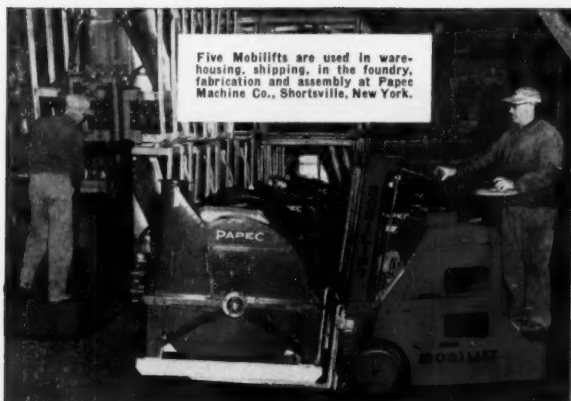


Tires carry steel—tons at a time—When he saw this materials handling job, the B. F. Goodrich Tire and Wheel Analysis man knew right away it called for Pressed-On Grooved Tread tires. They are built to carry tremendous loads and are available with Universal compound that resists cutting by steel scrap.

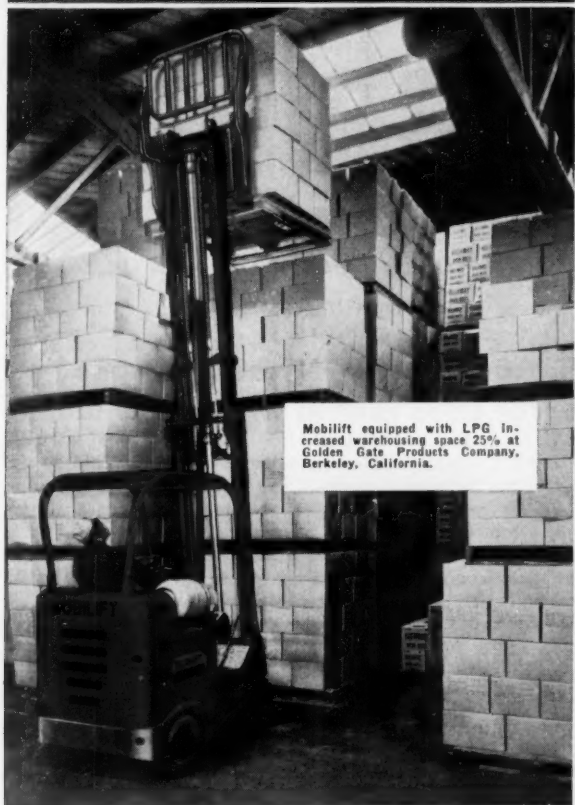
How **FREE** **ANALYSIS** saves you money

Do you know which industrial tires—which sizes, tread designs and tread compounds—are right for your materials handling jobs? Your B. F. Goodrich Tire and Wheel Analysis man does. He'll make a free survey of your operations, then give unbiased advice on the right tires for you to use. His recom-

mendations can save you as much as 50% on tire costs, as much as 20% on maintenance costs. Get your equipment on the right tires now by mailing the coupon today. This B. F. Goodrich service costs you nothing. A consulting service is available to manufacturers of materials handling equipment.



Five Mobilifts are used in warehousing, shipping, in the foundry, fabrication and assembly at Papec Machine Co., Shortsville, New York.



Mobilift equipped with LPG increased warehousing space 25% at Golden Gate Products Company, Berkeley, California.

**IN ANY INDUSTRY,
FOR ANY JOB
MOBILIFTS
LOWER
OPERATING COSTS**



Hydra-Lizer and other features cut handling time per car load of metal lath 88% at Park Ridge Fuel and Materials Co., Park Ridge, Illinois.



Two Mobilifts reduced car-loading time 90% at Aetna Waste Paper Co., Chicago, Illinois.

The case histories reported here are typical of many received from Mobilift® users across the country. They all report that Mobilift "Sit-Down" and "Stand-Up" Industrial Trucks help them cut handling costs by lowering operating and maintenance costs to a bare minimum . . . by moving more tonnage per hour per dollar.

Mobilift Trucks, with smooth Mobil-Matic® Drive and fluid coupling, fingertip controls for non-fatiguing operation, high free lift at no extra cost, and exclusive Hydra-Lizer®, a hydraulic equalizing rear suspension system on "Sit-Downs," all add up to higher profit jobs. Mobilifts are available with factory-installed LPG

equipment, and attachments for specialized operations. "Stand-Up" models up to 3500 lbs. capacities; "Sit-Down" models up to 5000 lbs. capacities.

FREE TO YOU!

- Mobilift "Sit-Down" Folder on how Mobilift's exclusive features save dollars by increasing efficiency.
- Mobilift "Stand-Up" Folder describing the cost-saving features of the only "Stand-Up" gas-operated truck on the market.



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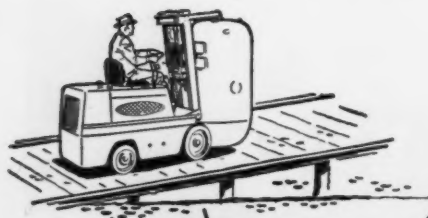
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...for every industrial application where heavy duty braking is required!

FSH... Floating Shoe Hydraulic Brake
designed for close control with heavy loads



Mechanical Parking Brake Hook-up

A separate parking brake is no longer necessary with FSH. If specified, the FSH Brake can be furnished with a mechanical parking brake linkage that functions independently of the hydraulic system.



Long Life Lining

Brake lining is bonded to the shoe to give maximum lining area with no lining waste.



Positive Automatic Adjustment

One application of the foot pedal sets the automatic adjustment. No further adjustment of the brake is required during the full life of the brake lining.



Positive Contact Drum Seal

For applications where a sealed brake is required, the FSH is designed to incorporate a seal between the brake backing plate and brake drum.

The FSH, a new, long-lasting brake, is designed specifically for the rugged needs of the materials handling field. Its remarkable design offers high performance with complete control. The FSH was originally designed to meet certain government specifications so demanding that existing brakes could not fill the bill. Now it is available in a wide range of sizes for dependable control application on materials handling equipment.

Unequalled stopping power and control are obtainable with the FSH. The brake shoes operate with a floating action. This permits the shoe to follow the contour of the drum... eliminates the danger of liner loads concentrating at one point. The result of this even load distribution is a highly dependable, controllable brake... in either direction of travel. This is most important when stacking heavy loads at high levels and maneuvering in close quarters.

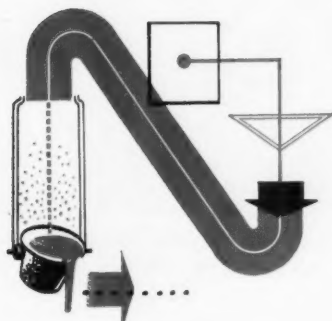
For Additional Information... contact the Timken[®] Brake Division. Complete details on the FSH Brake are available. And a staff of experienced engineers can assist you with any brake problem.

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For every industrial or automotive application where braking is required!
TDA Plants at: Detroit, Michigan • Oshkosh, Wisconsin • Utica, New York
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Versatile Handling In Modern Foundries

THE FOUNDRY industry probably pays a larger handling bill for each ton of finished product it turns out than any other single industry. In typical operations, from 100 to 150 tons of material is handled to produce one ton of finished castings.

And, about 43 cents of each dollar spent for direct foundry labor is used on material handling. The question is, how can it perform the dozens of handlings necessary to produce a casting more economically, faster and safer?

A number of answers, applicable to varied foundry operations, will be found in the pages following.

By **STANLEY S. GREENE**
Managing Editor, FLOW

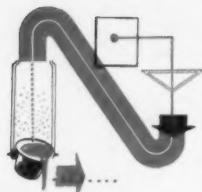
▶ **CAN YOU USE THE FLEXIBILITY OF INDUSTRIAL TRUCKS?**

▶ **CAN YOU INTEGRATE CONVEYORS FOR CONTINUOUS FLOW?**

▶ **CAN YOU MECHANIZE OVERHEAD HANDLING?**

▶ **CAN YOU MODERNIZE YARD OPERATIONS?**

VERSATILE
HANDLING
IN MODERN
FOUNDRIES



CAN YOU USE THE FLEXIBILITY OF INDUSTRIAL TRUCKS?

INDUSTRIAL trucks are such versatile units that they can perform any number of handling jobs in the modern foundry. Not only can they be assigned specific tasks of their own, but they are flexible enough to be integrated into many fixed handling systems.

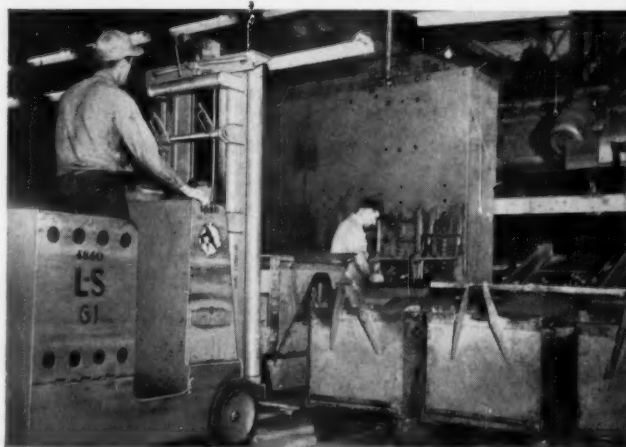
Starting with raw materials as they enter the foundry, the receiving and incoming storage moves offer wide-open possibilities for savings in time and labor through mechanization of these handling jobs.

Almost every foundry receives huge volumes of bagged material, including sand, binder material, graphite and others. Unloading these materials from incoming carriers can be an expensive job if done manually. The modernized foundry uses fork trucks to pick up these bags on pallets, as many as 40 to a pallet, and unload them from rail cars and highway truck onto the receiving dock.

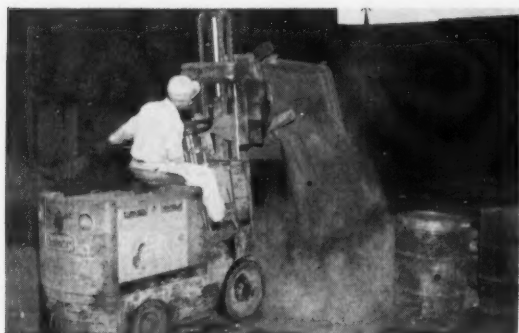
The elimination of one-at-a-time handling here can cut labor requirements as much as 90 percent, decrease demurrage charges, head off expensive workmen compensation payments caused by lifting injuries, speed handling and cut damage.

Other incoming materials, like ferro-manganese ore, which are shipped loose, can be unloaded quickly and economically by a fork truck outfitted with a scoop attachment. Trucks of this type go right into the carrier, scoop up loads of bulk material and haul it to storage.

Unloading barrels and drums also is easy with fork trucks having attachments which can be installed and removed in a few minutes. If drums are to be stored, the trucks place them on pallets. Or they can be hauled right to their point of use and stacked either vertically or horizontally through use of hydraulic up-ending devices which rotate the loads.



SMOOTH-FLOWING operation results from drop-bottom boxes and truck to take castings to grinding.



EASY DUMPING of tumbler abrasive from a skid box is achieved by a truck equipped with revolving head.



DELIVERING CORES to mold lines is made easy by powered equipment. Note stabilizer to hold the loads.



JACK-OF-ALL-TRADES aptly describes this truck which handles practically everything in this foundry.

Lumber used in pattern-making is another "natural" for fork truck handling. One manufacturer saves \$7500 annually by using a fork truck to unload and stack incoming lumber. In fact, almost any incoming material used in foundries—core oil, abrasives, coke, fine coal, parafin—can be handled efficiently by fork truck.

Most incoming materials are taken to a temporary, incoming storage area before they arrive in the foundry proper. The move to storage is simply an extension of the unloading job. Any load which can be unloaded profitably by fork trucks should be fork-trucked to storage. And, because of its ability to stack loads up to ceilings, the fork truck permits utilization of every inch of vertical storage space.

Don't Overlook Yards

The foundry yard, where heavy castings and scrap are usually stored, is another area worthy of close examination for possible handling method improvements. Weight and bulk of many items stored in outside yards make the use of an overhead crane system necessary in most operations. But, rather than eliminating the need for fork trucks, an overhead handling system makes them vitally important.

This is true because the working area of an overhead crane is confined to bay areas, with possible wasted valuable storage space away from the reach of

the crane. The addition of fork trucks makes available the space not covered by the crane. Thus, storage areas can be set up wherever needed, regardless of overhead facilities.

In small foundries particularly, the fork truck offers an economical solution to handling problems on the foundry floor. Because of the volume in these smaller operations, installation of an overhead crane system is often too expensive. Fork trucks, on the other hand, can take over a wide variety of handling jobs at a fraction of the cost.

Among the in-plant handling jobs which can be mechanized by fork trucks are: hauling metal from the scrap yard, hauling alloying materials from the warehouse, bringing flasks from storage, transporting patterns, taking sand to shake-outs, bringing sand to

(More on next page)



TRUCK-DUMP HOPPER combination takes the muscle out of dumping scrap and pig iron into an air furnace.



HYDRAULIC SCOOP is quickly detachable; is used to pick up, haul sand.



HOT TEMPERATURES, as high as 400° F, don't prevent these trucks from frequently entering ovens carrying rack loads of green cores.



COMBINATION TRUCK is especially useful where heavy castings must be handled either individually or on skids.



CONGESTED AREAS are negotiated with this truck's short turning radius and maneuverability.

foundry floors, handling cores, transferring castings to cleaning and inspection, transporting barreled core oil, carrying lumber for patterns and hauling steel-hardening agents.

Fork trucks equipped with revolving heads to haul, stack and dump box loads of metal, alloying materials or sand have proved highly successful as foundry handling tools. The use of boom attachments permits the handling of pouring ladles of molten metal from furnaces to the pouring line—an ideal solution to ladle handling problems in the small foundry.

Augment Other Systems

In a Cleveland foundry, fork trucks are used to augment the shop's conveyor and overhead handling systems. These trucks pick up boxes of rough castings off the shake-out conveyor and haul them to cleaning departments. The trucks also are used to haul cleaned castings to inspection, where loads are tiered three or four high to keep floor areas free.

At another foundry, fork trucks are used to haul patterns between pouring and storage areas to free overhead equipment for other work. Formerly, extremely heavy patterns were moved by overhead crane; lighter patterns were moved on four-wheel hand trucks. Now that these patterns are fork-trucked, there is less damage to the patterns, storage capacity is increased 500 percent and a savings of \$8400 a year on handling labor has been realized.

Although most finished foundry products are often irregular in shape, they usually can be unit-loaded successfully. Certain items like tank treads and camshafts can be strapped and loaded on pallets. Other items, like large cylinder blocks, can be hauled without pallets. And, loads such as car wheels can be handled easily by trucks with ram attachments. Boom attachments also can be used to handle loads which are impractical to palletize.

The Grinnell Company, a foundry making small castings, was faced with a serious problem in handling



FIVE TIMES MORE storage capacity was utilized by switching from manual handling of patterns to trucks.



DETACHABLE MAGNET attached to truck's forks is used for many jobs, including clearing floor of scrap.



MOLTEN IRON is transported from cupola to pouring area in ladles handled by powerized walkie truck.



SPECIAL FORK ATTACHMENTS are used on this truck to place in and remove castings from furnace.

pipe fittings. Castings were discharged from the foundry conveyor into non-stacking barrels and were carried away by a man with a two-wheeled hand truck.

Flow of castings to grinding machines, where rough spots are ground off, was slow, undependable and costly. The non-stacking barrels wasted storage space. The typical machine operator worked with "one arm and his head in the barrel, the other arm in the machine."

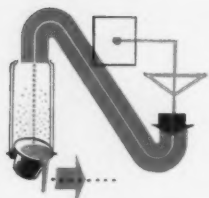
Engineers who were consulted recommended the use of fork trucks and drop-bottom boxes. This combination has made possible a smooth-flowing, interruption-free operation. Castings from the conveyor now drop into the drop-bottom boxes, which can be stacked four

(Continued on page 130)

SKIDDED CASTINGS may sometimes be strapped and palletized for stability.



VERSATILE
HANDLING
IN MODERN
FOUNDRIES



CAN YOU INTEGRATE CONVEYORS FOR CONTINUOUS FLOW?

NOT many industries can top the foundry industry in the number of different types of conveyors which can be employed under a single roof. In certain foundries, you can find overhead, pneumatic, screw, gravity roller, belt and vibrating conveyors all performing specific, integrated operations.

Consequently, any attempt to segregate one kind and describe its individual functions without including other types in the system (as well as other equipment) would be highly impractical. However, there are foundries whose operations necessarily require a wider use of one type than another. A study of typical foundries reveals that, while this emphasis varies, the need for integrating different conveyors into one system does not.

Power and Free System

An Ohio manufacturer of malleable and cast iron fittings, for example, has an excellent installation centered about the use of a power and free overhead trolley conveyor used to produce fittings by the multiple or stacked molding process.

Molds are loaded on carriers suspended from the free track of the power and free system. The free track is declined so that carriers travel by gravity until they reach a stop and feeder. There, they are released into the power line when there is a vacant space available.

Actually, the conveyor system consists of four power and free conveyors with interconnecting free tracks, switches, automatic controls and other features to automatically handle the carriers at speeds to meet the productive capacity of the 16 molding machines. This includes the dispatching of loads through the complete cycle of molding, metal pouring, shake-out stations and return of the empty carriers to the molders.

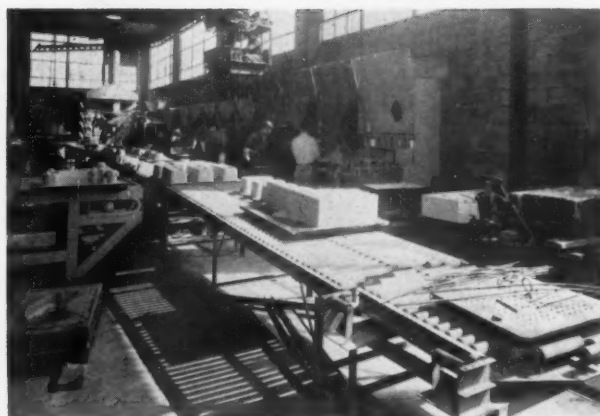
Conveyor No. 1 receives the completed stacked carriers from the free service tracks at the molding machines and delivers them to Conveyor No. 2 through controlled tongue switches. Actually, this first conveyor is two delivery lines, each picking up loaded carriers from two banks of eight molding stations.

The two delivery lines are interconnected by a common power line so that, at the delivery point of each line, the carriers are released alternately into Conveyor No. 2. This is done to reduce high speed travel of the loads from the eight furthest mold stations to reach the transfer point to the second conveyor.

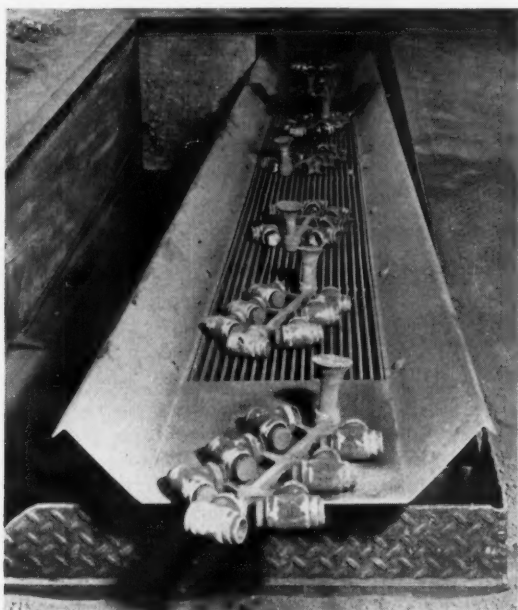
Conveyor No. 2 receives carriers alternately from the two delivery lines of Conveyor No. 1 through a controlled tongue switch and carries them to the pouring station. The speed of this conveyor is timed to afford the metal pourers proper pouring time to fill the stacked molds at the proper pouring rate. Metal pourers ride a moving slat conveyor whose speed is synchronized with the power and free conveyor.



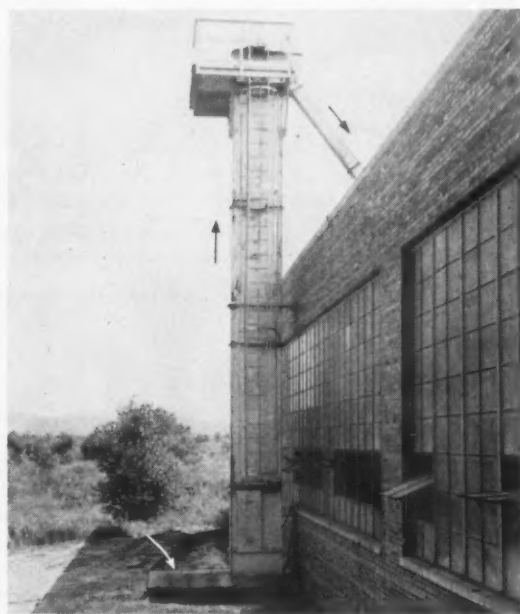
AUTOMATIC PIG-STACKER eliminates dangerous manual stacking of hot aluminum ingots.



TURNTABLES in this gravity roller mold line facilitates feeding into ovens. Roller line also serves as temporary storage.



VIBRATING CONVEYOR elevates castings from a pit, at the same time separating the sand shaken from them.



BUCKET ELEVATOR on outside of building lifts sand from a track hopper to discharge chute running inside.

Metal from the cupola is carried by an overhead monorail in ladles of 200 pounds or more capacity and runs along the mold conveyor. Three pourers fill molds at the pouring station.

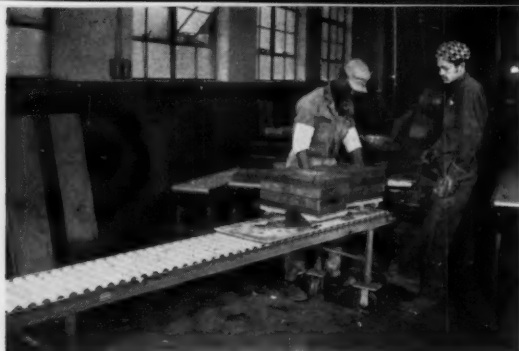
Poured molds are released against a stop and feeder for transfer through a tongue switch, either to Conveyor No. 3 which, in turn, delivers poured molds to the shake-out or to a free track holding line for empty carriers for direct transfer to the molding machines.

Conveyor No. 3 handles production from the pouring station. Poured stacked molds are released into

a free declined track to permit the carrier to flow by gravity to another stop and feeder where, by selection or manually, the carriers are diverted to three free shake-out lines. These shake-out lines are located directly over the shake-outs, and stacked molds are lifted free of the carrier by an air hoist on which are mounted vibrator knockout devices which break out the sand and castings from the stacked mold.

Sand and castings fall through the floor onto a shake-out screen, and the castings are separated onto an oscillating conveyor. The sand is conveyed to a

(More on next page)



FLASKS ON PALLETS are placed on a gravity line to deliver flasks. Pallets protect rollers from sand.



ABOVE: Integration at work: molds and cores arrive on belt and roller to work-height overhead conveyor.

TOP RIGHT: Mulled sand is carried by inclined belt conveyor to hoppers supplying molding machines.

RIGHT: Loops in overhead line located in penthouse provide cooling time, removes gas and heat from floor.



sand conditioning system and then returned to the hoppers feeding the molding machines. Empty flasks are lowered by the hoist onto the carrier and released against a stop and feeder to enter Conveyor No. 4.

Conveyor No. 4 is a recirculating line which delivers empty stacked flasks to the 16 molding machines. If, for any reason, the carriers are not absorbed into the molding lines, they recirculate and enter these lines by selection when needed. A by-pass on this line provides a quantity of carriers on a free section of track so they may be available in an emergency to keep the molding lines supplied as required.

Wide Use of Vibrating Conveyors

To further emphasize the diversified requirements for conveyors by foundries, it might be well to point out that the foundry industry probably uses more vibrating conveyors than any other industry. This is readily understandable when the applications are studied.

For example, the metal pan employed in this type of conveyor can withstand the temperatures normal to foundries. And, with further provisions to accommodate thermal expansion or oxidation due to conveying castings at elevated temperatures, it is possible to handle material as hot as 1600°F.

Abrasive materials, common in foundries, can be handled without excess pan wear because of the metal conveying trough of vibrating conveyors, plus the throw and catch action of the unit. Furthermore, there are comparatively few bearings to seal from dust.

Since this type of conveyor can be constructed so that the sides are deep enough to completely maintain the mat of material, spillage is not a problem. And, the vibrating action of the conveyor can be utilized for shaking sand away from the casting and also separating the sand from the casting.

A number of foundries utilize the heat-withstanding ability of the vibrating pan to move a thin mat of sand under gas or electric heaters during sand reclamation processes. Also, the various cupola raw materials like limestone and coke can be moved.

The problem of cooling castings from approximately 700°F down to approximately 150°F to enable workers to handle them is a common one. A vibrating conveyor can be designed to convey slowly so that the castings are exposed to ambient air while being agitated, or forced air may be blown around the castings. Also, mist sprays may be used while castings are being conveyed.

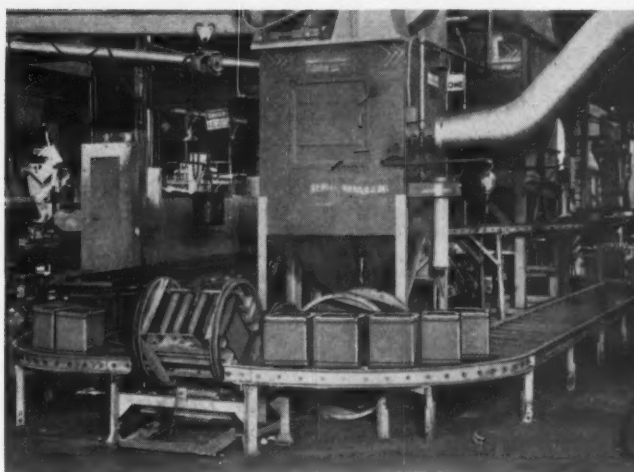
However, it is not always practical to cool castings
(Continued on page 96)



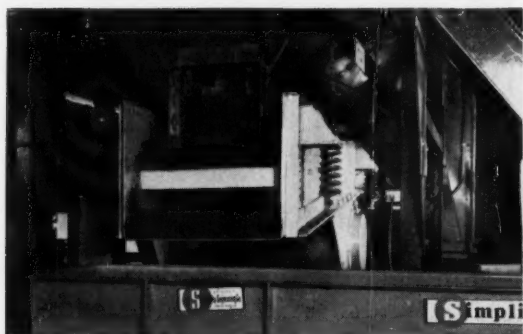
LEFT: Pallet-type conveyor carries flasks, ladle travels on monorail, men ride on moving slat conveyor.
ABOVE: System is made of roller conveyors on which cleaned castings are chipped, ground and inspected.



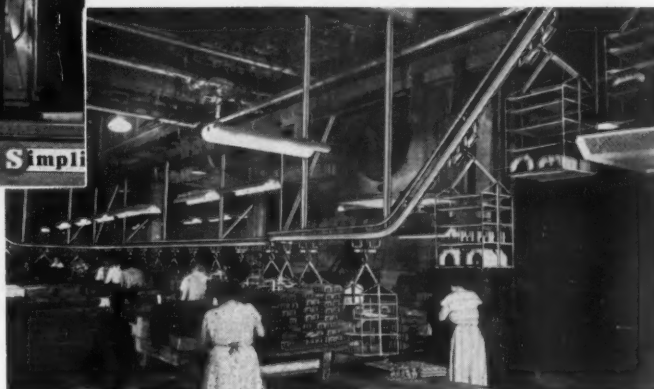
ROLLER CONVEYOR lines in modern foundry deliver molds from molding machines to transfer cars at left.



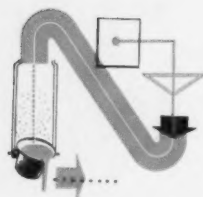
MOLD CONVEYOR handles 1000-pound flasks. Note the roll-over for inverting flasks to remove patterns.



ABOVE: Double-surface vibrating feeder discharges sand on another conveyor.
RIGHT: Overhead conveyor carries cores through bake oven to unloading.



VERSATILE
HANDLING
IN MODERN
FOUNDRIES



CAN YOU MECHANIZE OVERHEAD HANDLING?

THE trend toward more extensive mechanization of overhead equipment in foundries, as well as industry in general, is definitely bringing about better integration of all foundry equipment.

Planning engineers now realize that, in many plants, overhead cranes are no longer merely handling devices, but actually are integral tools of production equipment on which entire departments and plants are dependent for their rate of production. This substantiates the growing conviction that cranes should be acquired to perform specific jobs, rather than as part of a building project. Also, special purpose applications may change with changes in production requirements, and when they do, the cranes must be changed also.

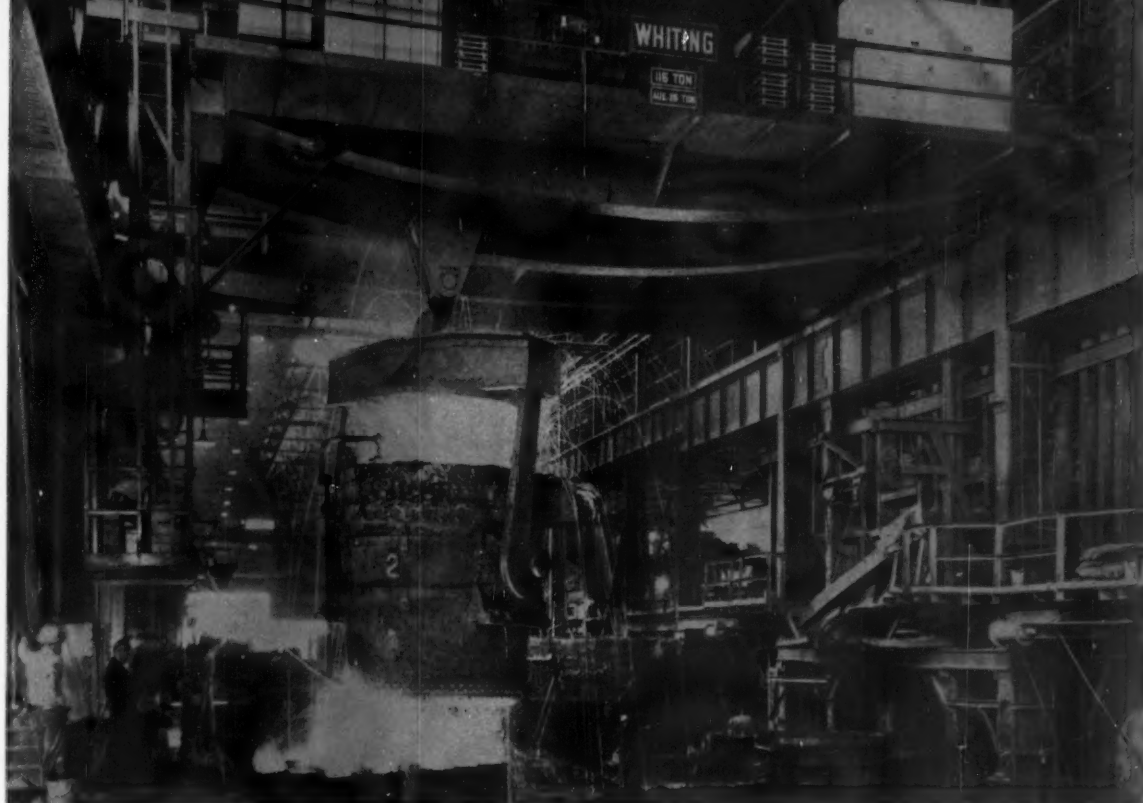
While many types of loads in foundries can be handled only by overhead cranes, still others can be more efficiently handled by these cranes than any other type of handling equipment. The foundry industry is a large user of this equipment, and there are many instances where its application is the most economical and most feasible.

An installation which typifies such applications and reflects the trend toward increased mechanization is in a gray iron foundry with a battery of four cupolas.

The charges consist of pig iron, scrap, stone and coke, and are made up in the yard by an overhead crane. Buckets containing the charge are then brought to a pick-up point under the monorail charger by a transfer car operated at ground level. The operator on the transfer car hooks the bucket on the hoist hook of the monorail and presses a button which sets the hoist unit in operation to raise the bucket.

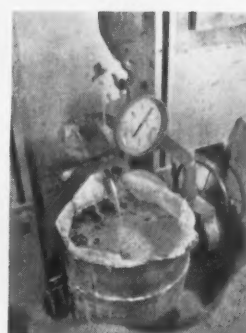
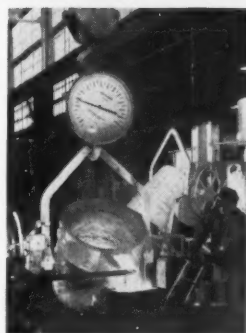


MECHANICAL CHARGER of the underslung crane type about to place cone-bottom bucket into cupola.



HUGE 115-TON CRANE equipped with magnetic controls handles ladles of molten metal in a steel foundry.

RIGHT: Two uses of scales in pouring operations: One (left) metal is poured from ladle until amount mold will take is removed. Other (right), only amount individual mold will take is poured into pouring ladle.



From this point on, the cycle is completely automatic. The bucket is raised to a height at which it is ready to enter the charging door of the cupola. When it reaches this position, if the charge in the cupola has melted down far enough to require another charge, the charger starts forward over the monorail track through a series of switches to the cupola which was preselected by the operator on the transfer car.

When it reaches the cupola, the bucket is lowered inside the cupola and the contents discharged through bottom gates. The bucket is then raised back to its maximum lift, the charger withdraws from the cupola and proceeds back to the pick-up point. There, the empty bucket is lowered to a point approximately 6 feet above the transfer car.

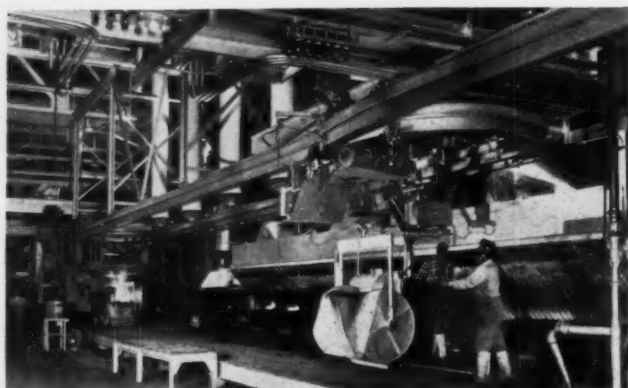
By this time, the operator has received another loaded bucket from the overhead crane in the yard. He lowers the empty bucket onto the car, unhooks it, hooks on the full bucket and repeats the process. Thus, the cycle of operation is mechanized without operator attendance except at specific intervals.

(More on next page)

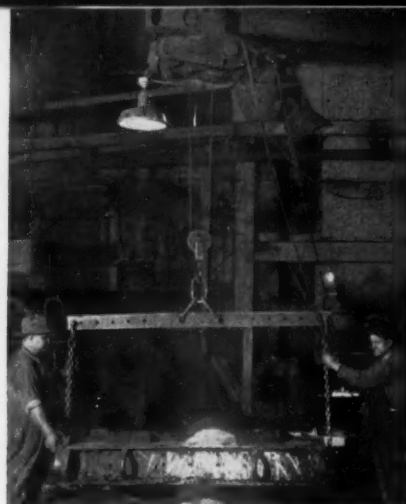
SMALL FOUNDRIES often find a portable, one-ton chain block like this ideal for their pouring needs.

APRIL, 1956





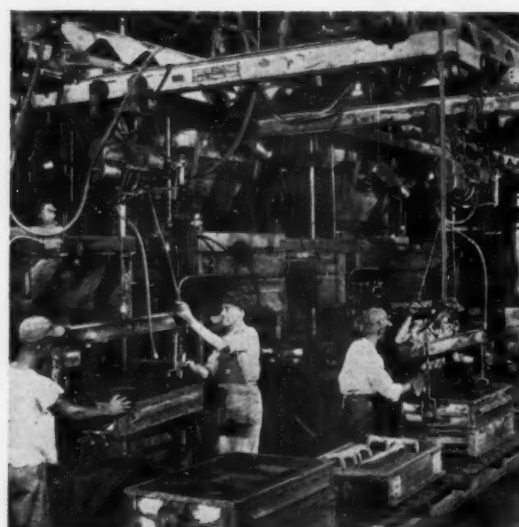
POURING LADLES suspended from electrically-driven tractors in this foundry move at same speed as the molding conveyor line.



HOIST UNIT mounted on jib crane uses spreader bar to pick up and move flasks.



CAB-OPERATED overhead traveling crane has 30-ton capacity and easily handles large, bulky mold boxes.



MOLDING MACHINE operators use overhead crane to remove flasks from molding table, place on drags.

Another example of how production was increased while costs were lowered through use of overhead cranes and monorails is at the Allis-Chalmers Manufacturing Company's foundry at La Crosse, Wisconsin.

This foundry's overhead systems have been key factors in production increases since the completion of an expansion program which stepped up capacity by 30 percent. Furthermore, they contributed to better use of floor space, dust reduction, safety and improved employee enthusiasm for the job.

The installations serve both charging and pouring. And, for pouring operations, there are individual cranes for complete area coverage of each production floor.

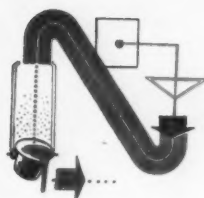
At the very start of the foundry operation, a 2½-ton-capacity, electrically-controlled charging crane is in service. This crane lifts a cone-bottom bucket from the pit up to the level of the charging door, then runs the bucket into a wishbone support in the cupola.

The charging cycle for a 2000-pound charge has been reduced to 4½ minutes. This represents a great improvement over former methods which required manual loading of wheelbarrows, raising them with an outmoded elevator which often "balked", and then hand-charging the cupola. The new method of charging has virtually eliminated cold spots in the cupola, cut the amount of coke used by 30 pounds per thousand pounds of charge and increased the carbon pick-up.

The monorail's job inside the foundry starts with the tapping of a 42-inch cupola. Transfer ladles of 1000 pounds capacity move to the tapping area on a monorail "sidetrack", which eliminates traffic jams between filled and empty ladles. The filled transfer ladle then moves on the main monorail line to the production floor.

(Continued on page 88)

**VERSATILE
HANDLING
IN MODERN
FOUNDRIES**



CAN YOU MODERNIZE YARD OPERATIONS?

THE progressive foundry does not confine modernization of its handling techniques to operations inside the plant, but examines its yard areas for possible improvements to reduce handling costs. Because of the extensive activity in the yards of most foundries—unloading, storing, stockpiling, charging, maintenance, etc.—a realistic analysis of these operations might reveal much wasted and duplicated effort.

Many foundries have found that power cranes supply the answer to efficient, low-cost yard handling. For one thing, the mobility of these units permits them to cover a wide working area. For another, versatility is afforded by the use of an assortment of interchangeable attachments: hook blocks, chain slings, clamshell buckets and magnets being most commonly used by foundries.

These attachments make it possible to handle many different materials, including foundry sand, coke, scrap, castings and other semi-finished products. Other uses of cranes in foundry work include plant construction and maintenance, as well as handling and yard storage of the finished foundry products.

And then, there are any number of unusual applications which can be employed profitably by the imaginative handling man. One such variation involves mounting a hoe on the basic crane superstructure and using it to clean out slag pockets in a steel furnace. Using the machine for this purpose has cut down furnace rebuilding time in the foundry from the former average of three weeks to just four days.

A more conventional use of cranes is at the foundry of the Dodge Manufacturing Company in Mishawaka, Indiana, where a 7½-ton rail-mounted crane is equipped for magnet operation to lift scrap into a weigh-

hopper. The crane operator, from his position, can check the amount of iron that is dropped into the hopper by reading a large scale mounted on the weigh-car.

When the appropriate amount of pig and scrap has been loaded, the crane propels the weigh-car along the

(More on next page)



SCRAP METAL is placed into yard storage by crane with magnet, is later loaded into carts for charging.



UNLOADING and stockpiling of coke is done with a clamshell. Note magnet on platform for other work.



CHARGING BUCKET loaded with scrap metal (inset) by crawler crane working with magnet. Mold flasks

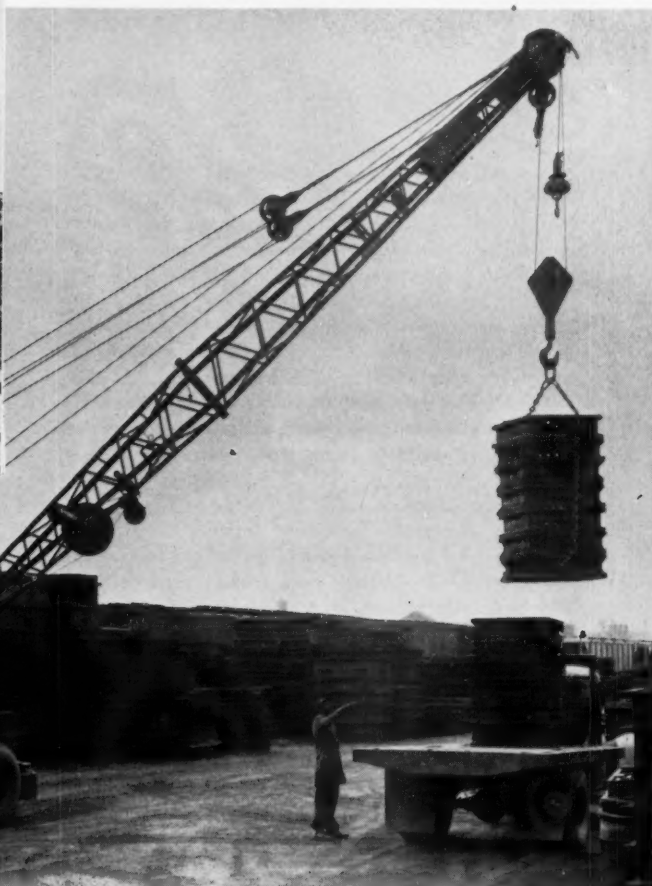
track until the hopper is located over a receiving opening. Then, an air control valve operated by the crane operator is released, allowing the pig and scrap to drop into the opening and onto a conveyor leading to the cupola floor.

A unique aspect of this operation is that radiant heat has been installed in the area around the rail track to insure that any snow is thawed out as it falls. This foresight by the company prevents any holding up of the operation during the winter months.

Another use of the crane, apart from handling scrap and pig iron, coal, coke and sand, is the handling of flasks and patterns. Thus, they can store flasks and patterns in out-of-the-way places when not in use. In some foundries, the crane is used to lift the complete charge onto the cupola floor.

How a crawler crane can become a production tool is illustrated at the Henry Furnace Company, Medina, Ohio. By using a 36-inch magnet, the crane loads cupola charging buckets with an accurate mixture of scrap and pig iron.

"Domestic" and "foreign" scrap and pig iron are stockpiled separately within reach of the crane's 30-foot boom in a 180° arc. The charging bucket to be



(above) are unloaded from highway truck by wheel-mounted crane and sling and placed in yard storage.



CRANE TRUCK handles billets and bars in yard, and can also enter the plant through low shop doors.



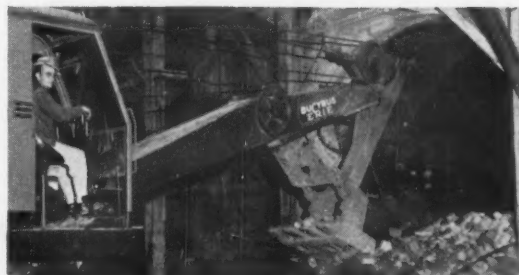
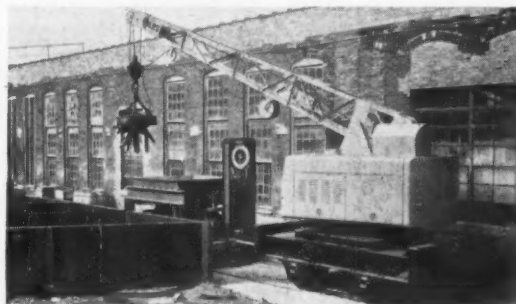
CHARGING PLATFORM is loaded with coke (above) and larry car in tandem with crane (below) receives charging materials accurately measured by scale.

loaded is placed on a scale and the crane operator carefully loads the 2000-pound-capacity bucket with the correct number of pounds of each material to make the proper mix.

An electric overhead crane then picks up the bucket and carries it into the cupola. With this method, up to 120 tons a day are fed into the foundry. When the crawler crane is not busy on this job, it unloads cars of scrap and pig iron to stockpiles with the magnet, and uses a clamshell bucket to handle coke and foundry sand.

At another foundry, a new cupola charging method was made possible with a power crane. F. E. Myers & Bro., Co., Ashland, Ohio, are manufacturers of pumps and air conditioners, and the key to their new charging method is a 10-ton crane working with a new charging bucket handler.

The crane runs up and down a row of bins where five different types of scrap and pig iron are stored. With its 39-inch magnet, it selects and carries some of each to the charging bucket on the scales where it is carefully measured. It handles 57,000 pounds of such materials in a 3-hour shift, and the charging crew was reduced from five to three men. In addition, a yard crew was released entirely for other work, as the crane



UNUSUAL USE of hoe involves cleaning out slag pockets in furnace; cuts rebuilding time considerably.

(Continued on page 132)



POWERED BARROW is very useful in small foundry for many jobs.

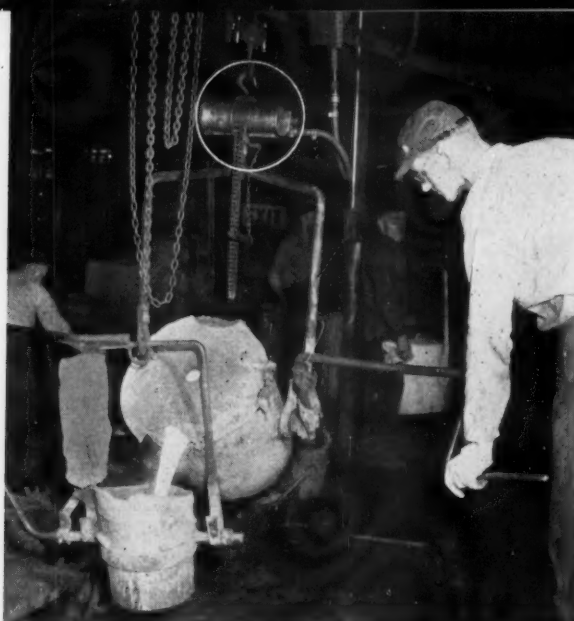


CLEANUP of shake-out sand, one of tractor-shovel's inside duties.



FOUNDRY SAND can be handled outside and indoors with loaders.

VERSATILE
HANDLING
IN MODERN
FOUNDRIES

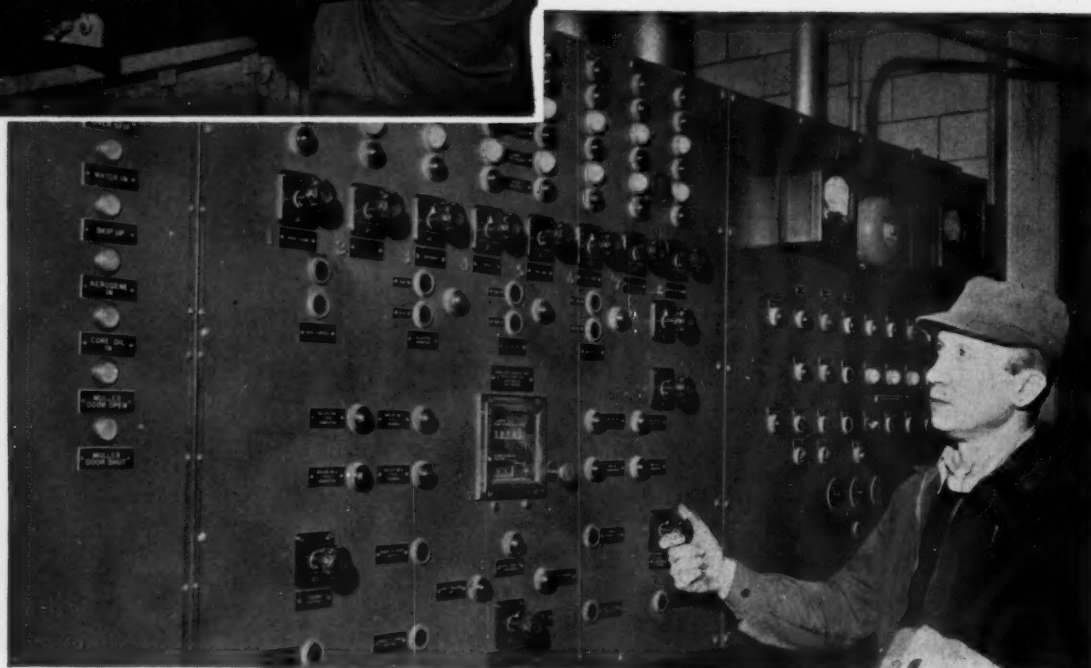


AIR HOIST handles ladle between furnace and pouring floor. Mechanical brake holds safely.



Foundry Handling

SAND FORMULATING system is automatic. Operator adjusts scale to deliver a required weight (left), and same operator controls the entire system (below).





FLOOR SCALE has two hand-set pointers which give charging range per load, including tolerance factors.



CLOSE-QUARTER work normally found in foundries is often taken over by these versatile powered barrows.

BRIEFS...

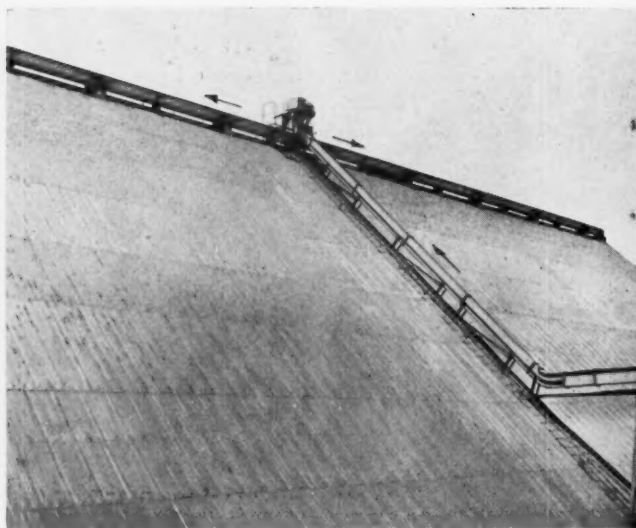
MOLDING SAND, 1500 pounds per load, is picked up by tractor-shovel (right). Straddle carrier with heat deflecting plate (below) moves red-hot rods in yard.



• Photographs and data courtesy Clark Equipment Company; Keller Tool Div., Gardner-Denver Company; Kwik-Mix Company; Richardson Scale Company; Toledo Scale Company.



1. EN MASSE-TYPE conveyor elevates feed to horizontal run to load truck or go to storage.



2. INCLINED conveyor discharges into screw conveyor over bulk storage area, or into loader.

How "Stock" Units Automate

If you think that a mechanized bulk handling system is not for your firm, because of the engineering cost involved, look over this continuous flow system which has been produced from standard, readily available units.

IT is not necessary to go into a heavy and expensive engineering job to make bulk material handling automatic.

This has been shown at the Sinton and Brown Company, of Bettaravia, Calif. The firm manufactures cattle feeds, and to produce a continuous, automatic flow—from receiving, through processing, storage and shipping—it has integrated into one system quite a variety of conveyor types. The system includes belt conveyors, screw conveyors, en masse conveyor-elevators, vibrating conveyors, and a centrifugal boxcar loader. Virtually no human attention is required in the operation. And a notable advantage to the firm, expense-wise, was that these conveyor elements are produced as standard units.

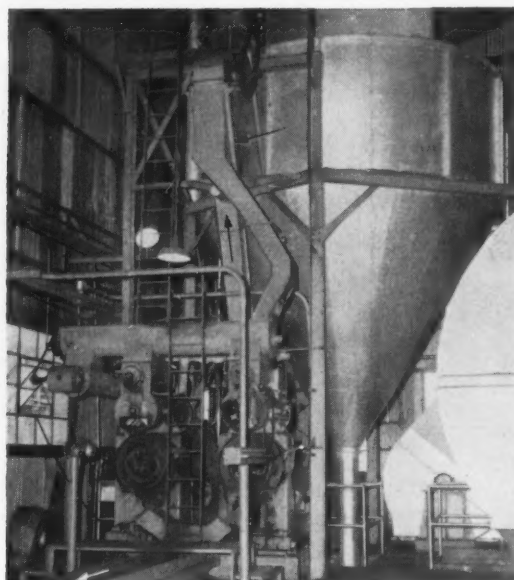
One of the feeds produced here is made of sugar beet pulp obtained from an adjacent refinery, which passes through blenders, presses, cookers and rotary dryers and comes out as finished feed at the rate of 240 tons per day. In this beet pulp operation two key

handling units consist of two en-masse type bulk conveyor-elevators. One of these units picks up the processed feed at any of three loading points along a 40 foot horizontal run. It then elevates 21 feet (Fig. 1) and runs horizontally for 54 feet where there are two discharge points for loading trucks, also seen in Fig. 1. This horizontal run is followed by an inclined run of 58 feet where the feed is discharged to the second key unit.

The second unit extends 58 feet horizontally to an incline 62 feet long at a 45 degree angle. At the top of this incline the conveyor discharges finished feed to a screw conveyor system along the ridge of the roof over the bulk storage space. This screw conveyor operates in opposite directions from the junction with the conveyor so that any part of the storage space may be filled. Operation of the screw conveyor in this way has shortened and simplified the installation of the conveyor. The arrangement is shown in Fig. 2.



3. SWIVEL-TYPE LOADER distributes to all parts of car. When not operating, feed backs up.



4. LOOP BOOT conveyor feeds palletizing machine and pellets drop to vibrating conveyor.

Bulk Handling

Along the horizontal run of this second unit it is possible, when desired, to discharge the feed directly to a 16-inch swiveloader as pictured in Fig. 3. This swiveloader can distribute the finished beet pulp feed to all parts of a box car and clear three grain doors for bulk shipment to the full capacity of the car. When cars are not being loaded the chute to the swiveloader is kept closed, and the conveyor-elevator delivers to the screw conveyors on the roof as previously explained. The capacity of the handling system is 15 tons per hour.

Beet pulp feed is also pelletized in this plant (Fig. 4). A 9 inch loop boot conveyor delivers feed from storage to the pelletizing machine, from which the pellets and fines drop to the screen deck of a vibrating conveyor. The latter is 12 feet long, and the fines are scalped off while the pellets travel this distance. At the end of the vibrating conveyor the pellets are discharged to an 18-inch belt conveyor, which delivers



5. VERTICAL conveyor lifts barley feed to discharge point, then to process plant or storage.

them to one of two conveyors. These carry them, respectively, either to the bagging operation or elevate them to storage.

Barley feed is handled by a separate system of conveying equipment. When delivered to the plant it is dumped into a ground level hopper from which a 14 inch screw conveyor takes it to a 7-inch vertical loop boot conveyor-elevator having a capacity of 20 tons per hour and lifting it 56 feet (Fig. 5). At this point the barley is discharged directly to the processing plant, or it may be delivered to a series of screw conveyors which carry it to storage.

The use of so many different types of standard mechanical handling equipment to meet the special conditions in this plant furnish an interesting indication of what can be accomplished by consulting with competent engineers to make practical recommendations.

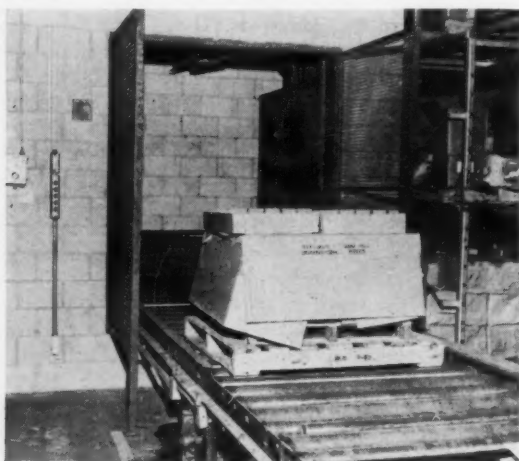
Photos courtesy Stephens-Adamson Mfg. Co.



First floor conveyor receives three-quarter-ton load of masonite for delivery to basement level.



Start of automatic travel, as pallet load moves to carriage, or "gig", which takes it down.



Gig is lowered (and raised) through 5 h.p. motor which winds and unwinds wire rope on drums.

Automatic Inter-

Troubled by traffic between levels?

RAPID expansion in production made it impractical for RCA to handle inter-floor traffic volume with existing freight elevators at its assembly plant in Bloomington, Ind. To maintain continuous flow of components between floors—and eliminate elevator congestion—the company installed a new, automatically controlled, reversible, inter-floor handling system.

This system now carries pallet loads of a wide variety of color and black-and-white TV components—including tubes, speakers, resistors, condensers, chassis, wires, yokes, sockets, terminal strips and stampings between first-floor storage and basement assembly areas. It comprises a carriage, or "gig", which operates vertically between floors, and two horizontal, live-roll conveyors, which bring loads to and carry them from the gig. The system is entirely self-operating from the time it receives a load until the time the load is removed.

In the transfer from first floor to basement, the palletized load is placed on the first-floor conveyor by fork truck. The load activates a limit switch which operates the first section of the live roll conveyor, starting the pallet on its way. (If the gig is not in position, the load waits at the shaft opening for its return, then enters.) As it moves completely into the shaft-way, the load operates a switch which lowers the gig to the basement level.

As the gig lines up with the basement conveyor, its rolls are again activated and the pallet moves out into the basement conveyor. When the pallet reaches the end of the conveyor, it is stopped by a structural member and held until a fork truck comes and removes it. As it reaches the end of the conveyor, the pallet automatically raises an air operated stop to hold back any additional loads until the first one has been removed. The basement conveyor will store two loads. Should a third load be placed on at the first floor level, it will be moved onto the gig, but the gig will not descend. As soon as the first load is removed, each succeeding load moves along one step.

Floor Handling

Invisible cops can control congestion.

The system likewise operates in the reverse direction. Similar switches are used, but they cause motion in the opposite direction as dead-headed pallets or special pallet loads make the reverse trip.

Designed to handle one pallet-load every minute, the 3000-lb capacity system operates two shifts and has reduced the traffic on two freight elevators which formerly handled all inter-floor traffic. Under the old system some loads were loaded onto and taken off the elevators by fork truck; in other cases, trucks rode the elevators.

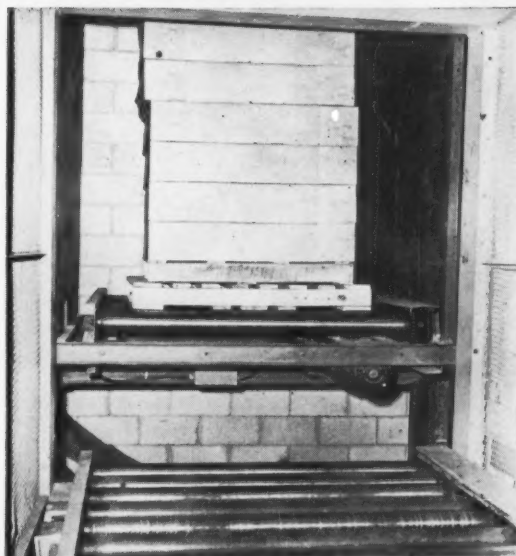
Controls at Both Terminals

The live-roll conveyors have five-foot rollers installed with sufficient end-clearance to provide for six-inch load overhang on either side. Main controls are located on the first floor, and it is from here that the direction of conveyor travel is determined. Located at both basement and first floor levels are additional buttons which will stop the system if this be desired.

The limit switches are operated by small-diameter rollers which protrude slightly above the main rollers of the conveyors. As pallets hit and depress the small-diameter rollers, the switches are activated, causing various elements of the system to respond depending upon the direction of travel, location of other pallet loads, and position of gig.

The first conveyor section travels at eight feet per minute—a speed slow enough to enable forks of trucks to withdraw from the pallet without upsetting it. The adjacent section travels at 20 and the gig conveyor at 30 feet per minute. The gig descends at 50 feet per minute. Power for the horizontal conveyors is supplied by 2 HP motors operated by the limit switches. The gig conveyor motor is rated at $\frac{3}{4}$ HP. Elevating and lowering is by a 5 HP motor which turns two hoisting drums to wind and unwind wire rope cables. The shaftway is guarded by wire fencework at both floor levels.

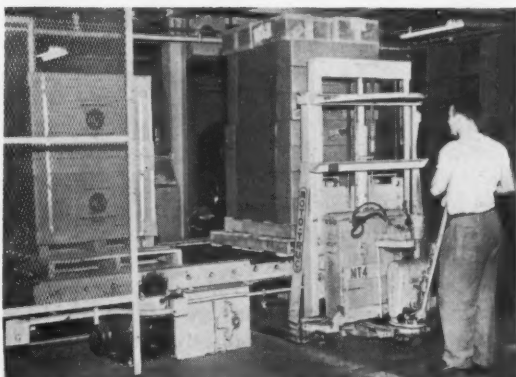
Photos and data courtesy the Gifford-Wood Company.



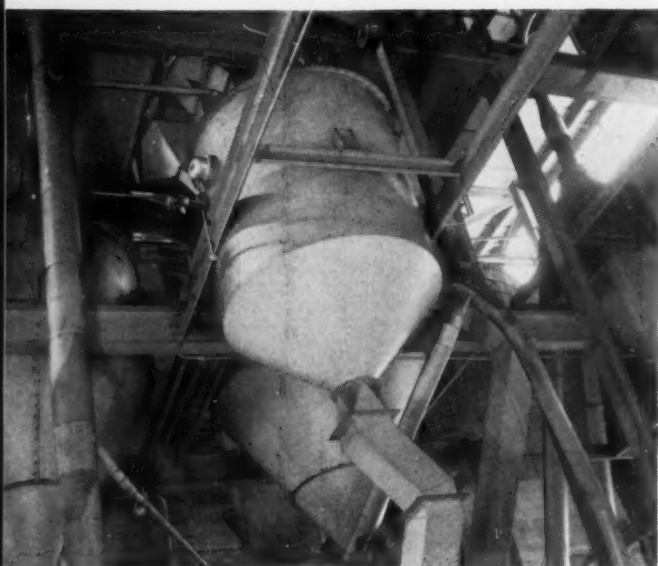
Mechanical stop, activated by lead pallet, will hold back second pallet until first is removed.



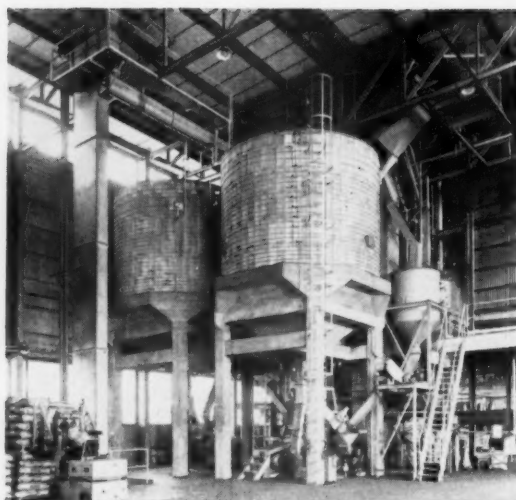
As pallet reaches basement, $\frac{3}{4}$ -horse motor which operates gig rollers is seen under frame.



Truck takes load. Two h.p. conveyor motor drives end section at 8 fpm, 2nd section at 20 fpm.



IN DUST COLLECTING system, large duct, left, leads from several sources to bagging machines; duct from hopper, right of tank, feeds smaller ducts going to, left, storage bin (for re-use) and, right, bagging.



COMPACT manufacturing area, with warehouse space, lower rear right; pitch storage silo, left; sea coal silo, right. Raw materials pass up bucket elevator, left, then travel via crew conveyors to silos.

Handling System With Built-In

Eliminates hazard of spontaneous combustion . . . Recovers and collects

DUST-FREE operations for foundries—and processing plants having similar problems—are being incorporated at an increasing rate in material handling systems. And they're not only for large companies.

For example, there's the small factory of Penn-Rillton Co. at West Elizabeth, Pa. It processes lump coal and coal tar pitch into finely pulverized found mold facing and core binder. It has only 74,000 sq. feet of manufacturing area, and there is still room for possible expansion. Concentrated in this plant are automatic conveying, pulverizing and blending equipment, two 100-ton silos and storage area for bagged and finished products. Through the design of built-in dust control and collecting systems, the building is almost as clean as Mother's kitchen. As a result, maintenance and production personnel, comprise, almost exclusively, the men to run the bagging machines and handle the finished product to and from storage or the shipping platform.

Lump coal and dry coal tar pitch—the principal raw materials employed—are received by rail from nearby mines and unloaded directly into a car hopper. They travel on a belt conveyor to a crusher, and then go to the top of the building via a bucket elevator. Passing through screw conveyors, coal and pitch are

delivered to respective storage silos. From these they pass through various combinations of pulverizers, screens, separators and other equipment, and are reduced to minus 200 mesh or finer before they arrive at bagging machines on the main floor. Bags of finished products then move to the warehouse area to await shipment.

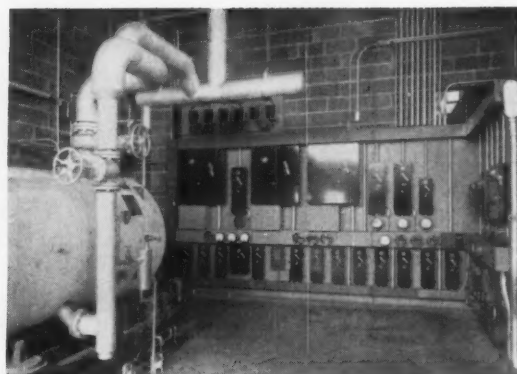
The combinations of equipment through which the materials pass are regulated according to the composition and grain sizes desired in the finished products. The coal and pitch are sometimes combined, in a number of proportions. In addition, various other substances, including goulac, clay and dextrine, are mixed with the pitch to produce core binders with special properties.

Because of the nature of the raw materials and products processed in the plant, a highly efficient dust collecting system was necessary. The entire conveying and processing installation is completely enclosed and dust-tight. A negative pressure is maintained in the system by the dust collecting equipment—one collector for pitch dust, one for sea coal dust. The collectors may be operated in combination or independently.

Dust collection in the plant has both physical and economic purposes. The primary purpose is to eliminate the hazard of spontaneous combustion of dust-saturated air. Collecting dust, of course, improves



ENCLOSED, dust-tight, vibrating screens above silo, left, and rear center. Surge bins have bin-level controls which shut off the equipment ahead of them.



CENTRALIZED, interlocked controls and metering equipment in boiler room. Starters were located here to eliminate higher cost of explosion-proof equipment.

Dust Control

valuable dust for re-use

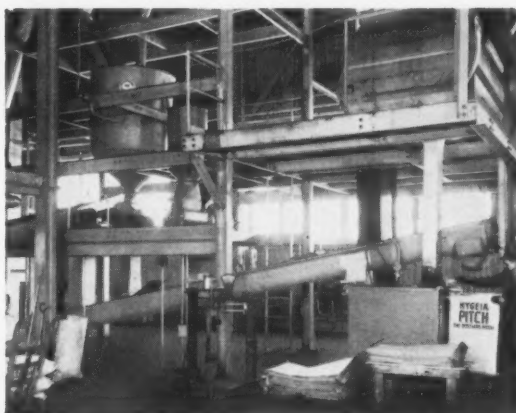
working conditions in the plant. On the economic side, the dust is a valuable product in itself. It may be bagged and sold separately; more generally, it is blended with the other raw materials to obtain end-products with various characteristics.

All electrical equipment in the manufacturing and warehouse areas is explosion proof (*Class II, Group F*). All controls are interlocked to prevent an operator from starting or stopping the process equipment in the wrong sequence. Automatic magnetic separators are used to remove tramp iron from coal and/or pitch, thus protecting the process equipment from damage.

Drives were selected to permit the use of identical, 75 hp., 1800 rpm., explosion-proof motors to power the pitch pulverizer, and two coal pulverizers. Thus only one spare motor must be kept on hand, instead of the three normally required.

The manufacturing area is topped by six 70-foot H-section trusses, spaced 20-feet apart, running north and south. The space between the bare trusses is utilized for some of the processing equipment above the silos. The slightly peaked roof, sloped $\frac{3}{8}$ -inch to one foot, has a continuous ridge ventilator running east and west.

A one-story wing houses office space, locker facilities, and the boiler and control equipment room. Rail lines bracket the plant. Incoming raw materials are



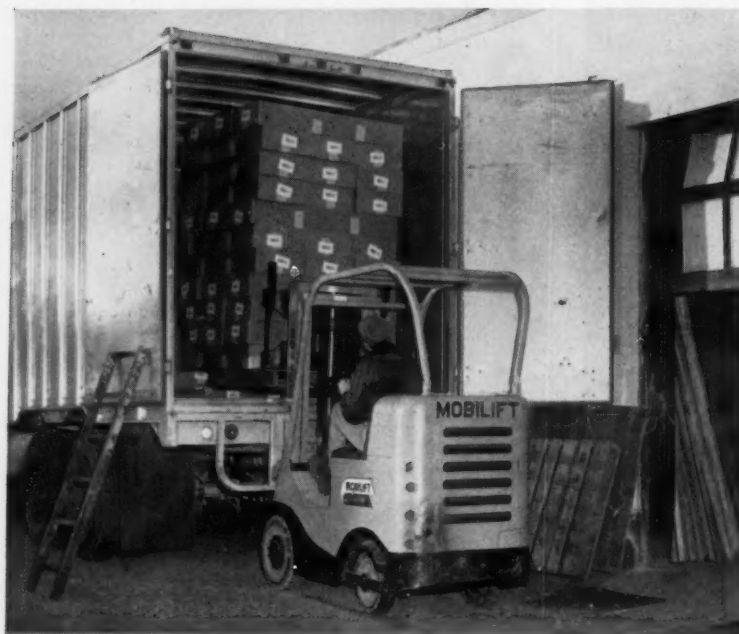
END of line for some pitch products. Main screw mixer for pitch line leads to bagging machine. Large bin, left center, blends dust and processed pitch.



VIEW from interior of rail car being loaded with pulverized sea coal shows covered loading platform and interior of plant illuminated by explosion-proof lights.

brought to a car shed and hopper on the north side, and outgoing bags of foundry products leave from the loading platform running along the south side.

Photos courtesy The Austin Co. and Link-Belt Co.



A smaller plant conserves some 90 man-hours per week with a fork truck that spends 98 percent of its working life in a space 40x20 feet, operating only 90 minutes a day.

Simple System Scores Sensational Savings

HOW A SMALL MANUFACTURER can receive unusually substantial returns from an investment in a mechanized operation has been shown by Marlou Lights, Inc.

The firm discovered unexpected dividends from the installation of a fork truck. It was known when the truck was purchased that the vehicle would spend 90 percent of its useful life working in a space only 40 feet long and 20 feet wide, that in the primary operation for which it was obtained—it would work only 1½ hours a day. In spite of such limitations, the plant has discovered that the lift truck will pay for itself in less than a year. This is according to F. A. Schiller, president of the company, and W. F. Calcagno, vice president in charge of plant operations—and here is how they figure it.

Labor savings, of course, account for the biggest part of the total result. Calcagno finds it difficult to estimate the time savings in terms of percentages. Some of the operational savings have been tremendous. For instance, it formerly took three employees 24 man-hours (three men, eight hours a day) to carry three skid loads of fluorescent fixtures to a trailer truck parked at the plant's receiving gate. The fork truck does this job in a matter of minutes. Marlou has been

able to cut two handling operations, and 66 percent of the work force formerly employed in shipping have been diverted to other jobs within the plant. The fork truck is saving the company about 90 manhours a week.

The firm wanted to stack 187 four-foot fluorescent fixtures on one pallet, strap the load, and put it on a truck. The loaded pallet would weigh 4000 pounds. By loading fixtures in this manner, the company could save cartons, also, the labor of hand-loading individual cartons on over-the-road trucks could be eliminated.

With the fork lift, this kind of saving has been made possible. Marlou still places smaller shipments of fixtures in cartons, but, by using the fork truck, they can stack 60 cartons on a single pallet and load them all at once. Prior to use of the truck, each carton was carried, individually, to the waiting truck.

Although Marlou purchased the truck primarily to allow it to load its finished products more efficiently, other uses immediately became evident. These have enabled the company to make further cuts in operating expenses. The fork truck vastly simplified Marlou's raw material handling.

(Continued on page 86)



Can a Towmotor Solve My Handling Problems?



YES! Towmotor Fork Lift Trucks and Towmotor Job-Planned Accessories are "tailor-made" for your particular application in many ways. Soundly engineered by materials handling specialists, the Towmotor line includes 15 different models and more than 60 interchangeable attachments, for every handling need.

Ask your nearest Towmotor Representative to show you what Towmotor equipment can do to speed your materials handling, cut man-hour costs and make maximum use of storage space! . . . or write for Certified Job Studies covering *your* industry. TOWMOTOR CORPORATION, Div. 804, 1226 E. 152nd St., Cleveland 10, Ohio.

Read how other companies use Towmotor Equipment to Cut Costs!

Brick Manufacturer: Ask for Job Study # 107

Cotton Warehouse: Ask for Job Study # 109

Transfer Company: Ask for Job Study # 111

Fruit Grower: Ask for Job Study # 110

Metals Plant: Ask for Job Study # 108

America's best engineered fork lift truck

See the TOWMOTOR EXHIBIT



Cleveland Auditorium - June 5-8

TOWMOTOR
THE ONE-MAN-CANG®

THERE'S ONLY ONE FORK LIFT TRUCK CALLED TOWMOTOR
Circle No. 196 on Reader Service Card for more information



SERVING as the essential link in the supply system for an automated operation is a . . .

BIG JOB for a CRANE

— even in Texas

IN the relatively few years since it was founded, The Tyler Pipe & Foundry Company has become one of the most successful operations of its type in the South-Central area of our country. And much of the success of the firm has resulted from the adoption of latest material handling techniques and equipment to its particular needs.

This Tyler, Texas, company started manufacturing in 1939 for a relatively local market. Today its own big fleet of highway carriers plus railroads carry Tyler Pipe products throughout most of the states between the Mississippi River and the Continental Divide. These products include cast iron soil pipe and fittings, water main fittings, various utility supplies and plumbing specialties.

Typical of the firm's progressive utilization of modern handling methods was the recent completion of a mechanized foundry. Here, molds and cores are made mechanically, sand is mixed under scientifically controlled conditions—handling is as automatic as pos-

sible from charging through to delivery of finished castings. And the essential link at the supply end that makes a smooth flow possible—that meets the needs of this automated system—is a mobile, tire-mounted crane.

A spur track brings pig iron and scrap metal to the charging area, where the magnet-equipped crane not only unloads the cars but also loads charges directly into the mechanical charger. The equipment is also used to segregate the amounts and types of scrap stored and fed to the charger from stockpiles.

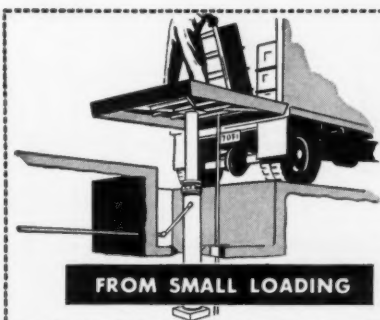
For this operation the crane moves in a restricted area of some 2500 square feet for approximately four hours a day. The rest of the time it is free to roll around the plant yard, doing whatever other jobs may be required of it. Tyler management figures the crane to pay for itself inside of a year on the charging operation alone.

Photo and data courtesy Bartholow Machinery Co. and the Koehring Co.

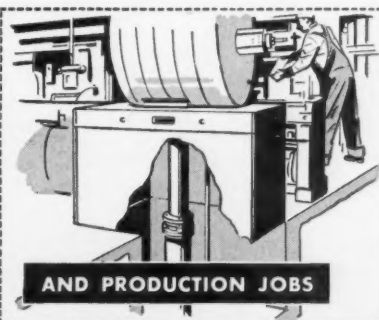
wherever the need...
whatever the size...

GLOBE OILIFTS

QUICKLY INSTALLED...QUICKLY RETURN THEIR COST!



FROM SMALL LOADING



AND PRODUCTION JOBS

TO LOAD MACHINES

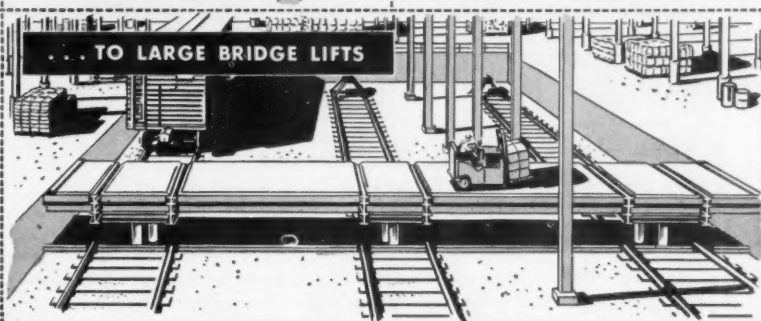
(Left) Globe OilIFTS position bulky materials to speed production of machines and processes.

TO CROSS A DEPRESSED AREA

(Below) Synchronized hydraulic cylinders raise giant Globe bridge lifts from railroad track level to loading dock height, permitting two-lane traffic of heavily loaded fork trucks.

TO LOAD TRUCKS

(Above) Where no loading platforms are available, Globe OilIFTS quickly raise heavy loads to truck bed level. In "down" position, platforms are flush with floor, permitting free cross travel of men and vehicles.



TO LARGE BRIDGE LIFTS



Whether the load is 1,000 lbs., or 50,000 lbs. . . whether the lift is a few inches or 50 ft. . . the Globe OilIFT which does the job is assembled with standard production line components. Oil-hydraulic cylinders, platforms, power units and control systems are available . . . stress and performance tested . . . for initial low cost, early shipment and quick installation.

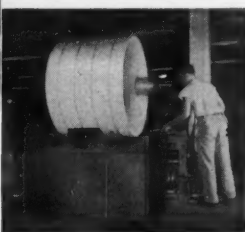
So, whether you want to cut costs in truck loading, eliminate the hazards of a ramp, route traffic across recessed railroad tracks, or any of countless lifting or materials handling operations, there's a readily-available OilIFT to do the job.

The free book: "Case Studies in Modern Lifting" tells what other firms in your industry are doing to speed lifting work and cut costs. Write for your copy today.

GLOBE

OILIFTS

PLANTS: DES MOINES—PHILADELPHIA—LONG BEACH, CAL.



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FREE COPY today!



GLOBE HOIST COMPANY
East Mermaid Lane at Queen Street
Philadelphia 18, Pennsylvania

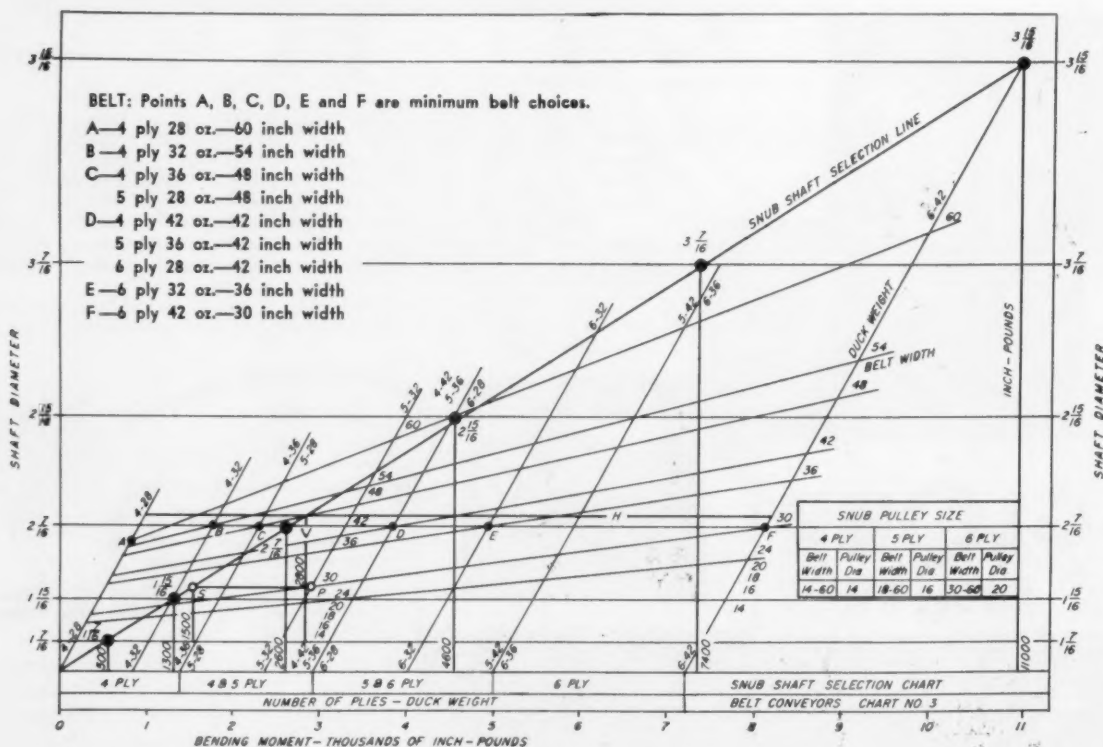
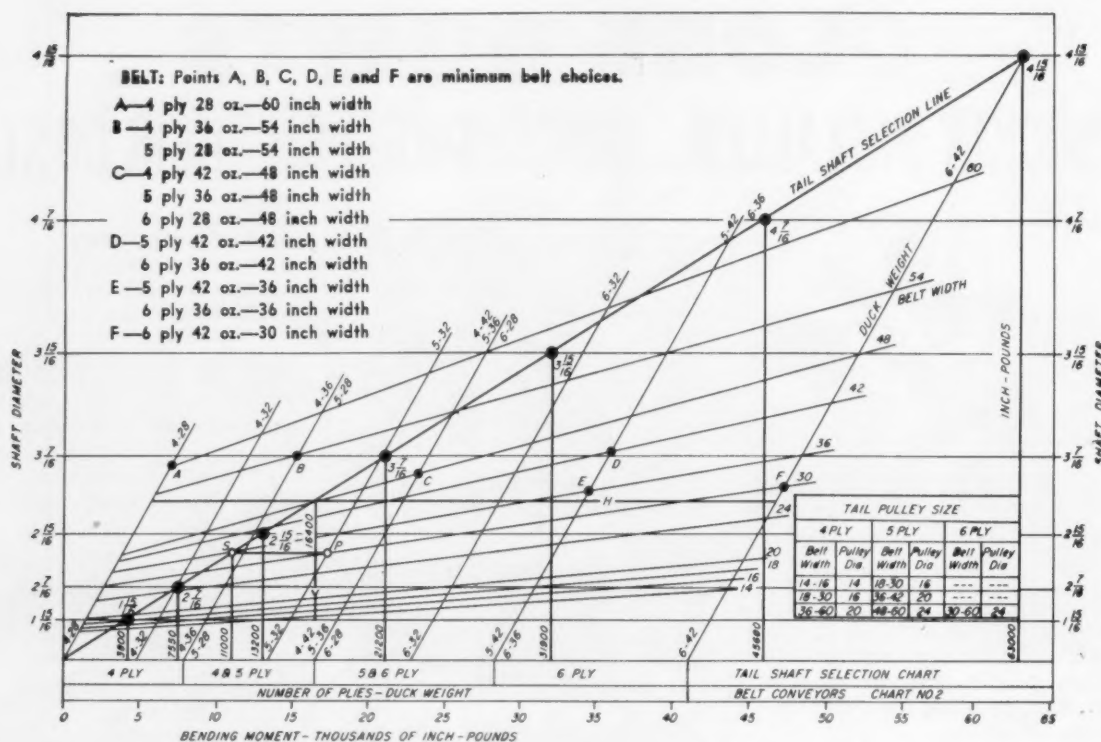
Please send me additional information on Globe OilIFTS as described in the FREE booklet "Case Studies in Modern Lifting."

Name.....
Company.....
Address.....
City.....State.....

F-705-PL

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Charts for Selection of Belt Conveyor



Shafts

REVISED FLOW DATA SHEET:

Changes subsequently made in the last two charts of the original FLOW article on this subject (Feb., 1956) have been incorporated in this data. Those who are keeping the original pages for reference can paste the data in this column over corresponding sections of the original.

EXAMPLES: SELECTING TAIL SHAFT SIZES

From Bending Moment
GIVEN: Bending moment 16,400 inch-pounds.
METHOD: Draw vertical line V to intersect tail shaft selection line. Draw horizontal line H to intersect duck weight lines.
SHAFT: Minimum shaft 3-7/16 inch diameter.
PULLEY: See tail pulley size table.

From Belt Width And Strength
GIVEN: 5 ply 32 oz. belt 30 inch width.
METHOD: From intersection of 5-32 (5 ply 32 oz.) belt with 30 inch belt width (point P), draw horizontal line PS to intersect tail shaft selection line at point S. Drop vertical line from S.
SHAFT: Minimum shaft 2-15/16 inch diameter.
BENDING MOMENT: From belt—11,000 inch-pounds.
 From shaft—13,200 inch-pounds.

EXAMPLES: SELECTING SNUB SHAFT SIZES

From Bending Moment
GIVEN: Bending moment 2,800 inch pounds.
METHOD: Draw vertical line V to intersect snub shaft selection line. Draw horizontal line H to intersect duck weight lines.
SHAFT: Minimum shaft 2-7/16 inch diameter.
PULLEY: See snub pulley size table.

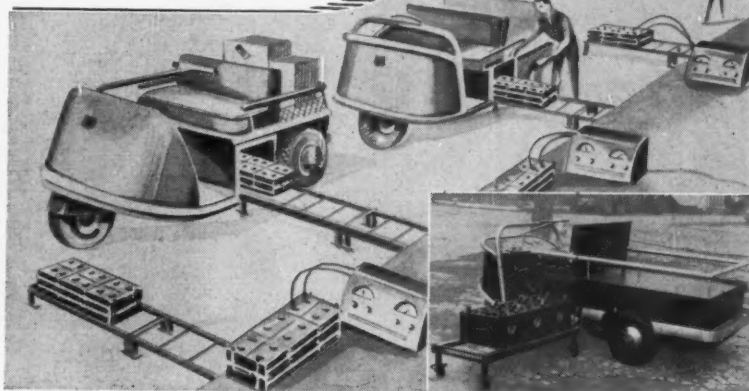
From Belt Width And Strength
GIVEN: 5 ply 32 oz. belt 30 inch width
METHOD: From intersection of 5-32 (5 ply 32 oz.) belt with 30 inch belt width (point P), draw horizontal line PS to intersect snub shaft selection at point S. Drop vertical line from S.
SHAFT: Minimum shaft 2-7/16 inch diameter.
Bending Moment: From belt—1500 inch-pounds.
 From shaft—2600 inch-pounds.

Laher

LEADS THE FIELD IN ELECTRICS

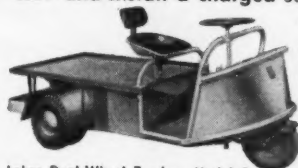
Another Sensational LAHER First!

QUICK-CHANGE BATTERY UNITS!

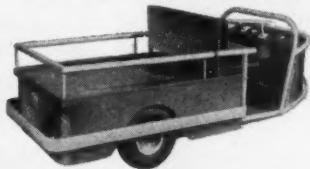


CHANGE AND CHARGE BATTERIES WITH ONLY 3 MINUTES OF LOST CAR TIME!

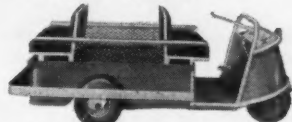
Now—for the first time—you can charge one group of batteries (out of car) and install a charged set of batteries in minutes. Drive on one set while another set of batteries is charging. Laher Electrics can be used continuously for days. Costs only pennies a day to operate.



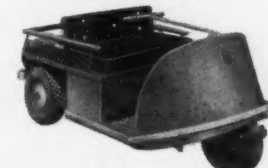
Laher Dual-Wheel Trucker, Model 8



Hill-Billy Delivery, Model 7



Laher Bell-Hop and Utility Car



Laher Special Per. Carrier and Shop Car

COMPARE THESE EXCLUSIVE FEATURES

- 8 Standard models—a model for every industrial use.
- Laher Electrics cost only 5-15¢ per day to operate.
- Only Electrics with 6 powerful (190 amperes ea.) batteries.
- Only Electrics with automotive type dashboard (all instruments within easy sight and reach).
- Only Electrics with full elliptic springs front and rear.
- Only Electrics with choice of silent Laher belt drive or double sprocket chain drive.
- Only Electrics made by large maker of automotive parts and equipment with world wide distribution.
- Special order vehicles can be made to your specifications—submit your requirements.



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Ask Standard

how to cut costs with conveyors



Chutes carry empty trays from makeup machine to packing belts alongside the cookie enrobing line.

Trays are filled with cookies as they move past operators to automatic wrapping and packaging.

Floor-to-floor conveyors save manhours, space, handling for famous biscuit and cookie maker

A VARIETY of conveyor equipment makes this system a model of simplicity, efficiency, economy.

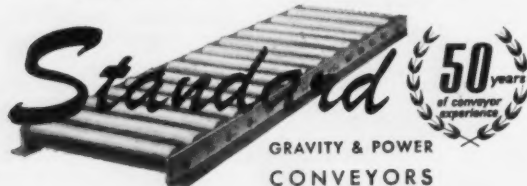
It's another example how Standard's experience in conveyor application pays off. At Robert A. Johnston Company, Milwaukee, Wisconsin, Standard Conveyors pay for themselves in manhour savings

... eliminate most hand trucking ... cut floor area needed for handling by two-thirds.

STANDARD CONVEYOR COMPANY, General Office: North St. Paul 9 Minn. Sales and Service in Principal Cities. Canada: International Equipment Co., Ltd.



Left: 3-tier power and gravity system carries cases to warehouse. Tape-sealing and coding of cases are done on roller conveyor lines. Right: Multiple spiral chutes lower cased goods from 4th to 1st floor. Speed is controlled by pitch design.



For details, see the Standard Engineer listed in the phone book or write for Bulletin 309. Address Dept. A-4.

Sales and Service in Principal Cities.

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SENSATIONAL SAVINGS

(Continued from page 80)

Before the truck was installed, all male production personnel helped unload steel. Packages were broken on the truck and carried in by hand. Now, steel is received palletized. The fork truck has saved about 30 percent of the raw material handling time and increased storage capacity approximately 50 percent.

In the past, handling heavy steel by hand, Marlou was not able to stack higher than a man's chest. Now, steel can be stacked eight or ten feet high. It takes but two hours to unload 40,000 pounds of steel.

Employee morale has improved tremendously since the arrival of the truck. As machine operators no longer have to horse heavy stacks of sheet metal by hand, they are all very glad to have the truck in the plant.

After training one of the shipping department men to operate the truck, the firm found that he could maintain his former shipping duties and still be able to maintain almost the same workload.

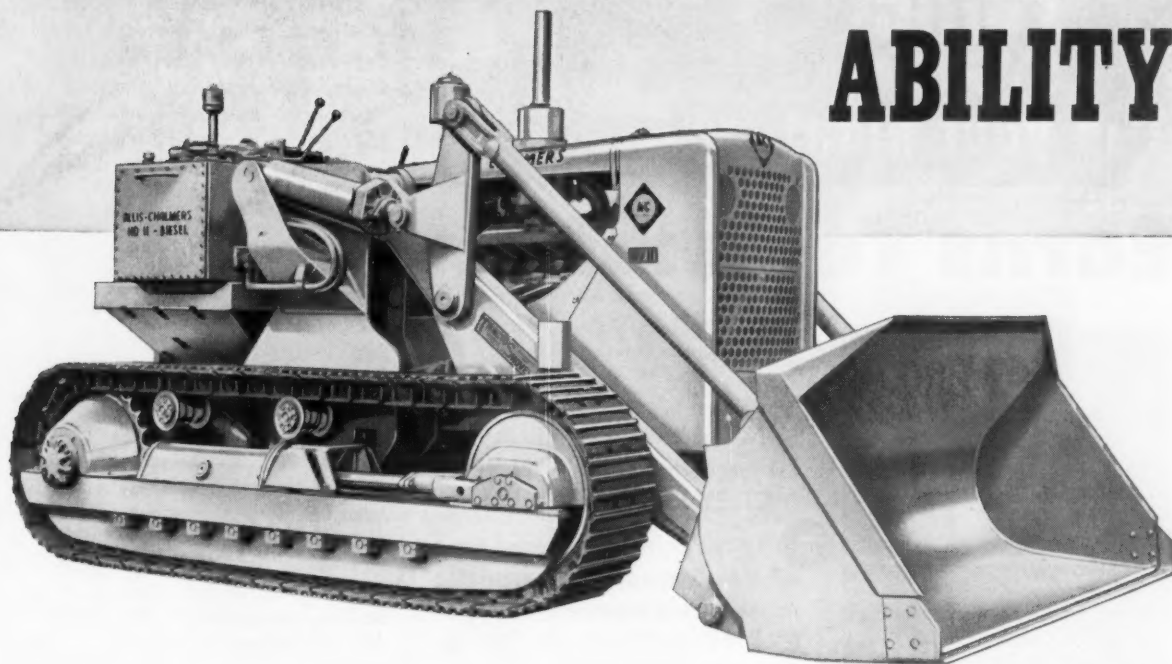
Truck Saves Heating Fuel

One interesting sidelight that Calcagno discovered was a reduction in his heating bill. Since the door to the plant is no longer open for long periods of time—necessary when hand loading a highway truck—the boiler requires less fuel. Photos and data courtesy Lamson Mobilift Corp.



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NEW MATERIAL-HANDLING ABILITY



with the

ALLIS-CHALMERS **HD-11G** TRACTOR SHOVEL

2 1/4-yd Standard Bucket
3 1/4-yd Light-Materials Bucket
105 net engine hp
32,000 lb
11-ft, 7-in. dump height

NEW POWER is provided by the modern, 105-hp Allis-Chalmers diesel. Tornado turbulence and "follow-through" combustion mean cleaner burning and more power from fuel, as well as smoother engine performance and extra long engine life. Added power pays off in extra crowding and loading ability, fast work cycles.

NEW CAPACITY — Big 2 1/4-yd standard bucket is streamlined to roll in large loads more easily. Improved design cuts spillage, clean dumping saves time and effort shaking out loads. Optional 2 1/4-yd tip-back bucket rolls back 25 degrees at ground level, handles bigger loads of loose material.

NEW STABILITY — Extra-long track — with almost 9 ft of track on the ground — plus 8 truck wheels on each side and 32,000 lb of weight, give the HD-11G unusual stability, plenty of traction.

NEW-TYPE HYDRAULIC SYSTEM is simpler, safer, easier to maintain. Tank has fewer external fittings. Magnetic filters and suction-line screens protect entire system. Hydraulic pump offers fast action, long life.

NEW OPERATOR CONVENIENCE — The HD-11G features easily controlled, accurate bucket action; reduced lever pull with new-type clutch; full vision; roomy platform; foam rubber seat; 60-gal fuel tank.

NEW DEPENDABILITY AND SERVICING EASE result from such features as heavy-duty truck wheels and idlers; new, long-life track; new-type, long-lasting, ceramic master clutch lining; unit construction's quick disassembly and assembly of major parts; 1,000-hour lubrication intervals for roller bearing truck wheels, support rollers and idlers.

ALLIS-CHALMERS, CONSTRUCTION MACHINERY DIVISION, MILWAUKEE 1, WISCONSIN

Stop in soon and see the
production-boosting HD-11G
at your Allis-Chalmers dealer's.

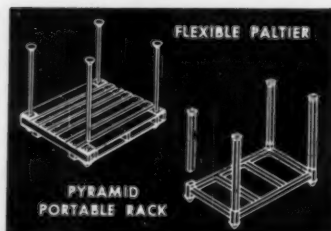
ALLIS-CHALMERS



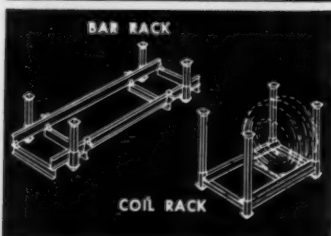
A Paltier SYSTEM in your plant



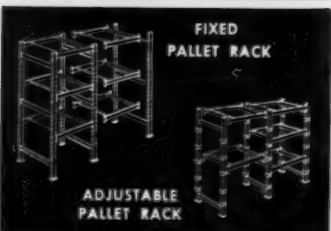
Earns You Money *Everyday!*



1 By reducing the area now required to store your inventory, Paltier **EARNs IN RENT MONEY Everyday!**

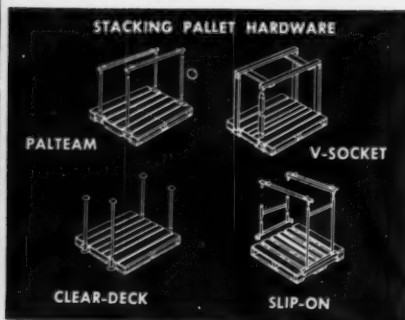
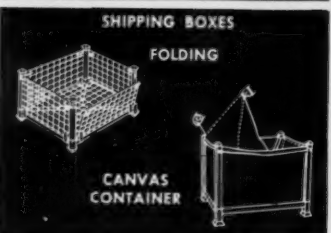


2 By reducing the travel time of your men, they handle more merchandise, Paltier **EARNs MONEY In Labor Savings Everyday!**



3 By preventing damage in crushing, Paltier **EARNs MONEY ORDINARILY LOST Everyday!**

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of Engineered Storage Systems

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OVERHEAD HANDLING

(Continued from page 68)

Because of the faster handling made possible by the monorail, there is no need for a reservoir ladle—metal is poured directly into the transfer ladles. Total metal now poured ranges from 35,000 to 40,000 pounds in two hours and 20 minutes, as compared with a maximum of 25,000 pounds in about the same time with former handling methods.

Improved Dust Control

These former methods also involved the use of sulky ladles for transfer of metal from cupola to pouring floor, and hand ladles for pouring metal into molds. Now, floor traffic has been reduced with a resultant improvement of dust control, and higher stacking of molds and greater safety have been made possible.

Mechanized Charging

It thus becomes obvious that one of the most fertile areas in foundry operations for increased economies through mechanization is that involving the charging of cupolas. Wherever mechanical methods have replaced hand charging, foundrymen have benefitted through reduced costs, better working conditions, elimination of charging floors and improved melting.

Manpower Savings

Reduced labor costs is one of the more evident benefits. With a fully-mechanized system, from two to four men can make up and charge 20 to 50 tons an hour, depending upon equipment used and foundry layout. With hand methods, 18 to 20 men would be required to do the same work.

Improved Operation

Working conditions which accompany hand charging of cupola—exposure to the heat and gases from the cupola stack—make it one of the dirtiest, heaviest and most disagreeable jobs in the foundry.

FLOW

BETTER YARD MATERIAL HANDLING



This 20-ton Lorain Self-Propelled Crane is handling coils of sheet steel in a Detroit plant. Note the dial scale on hoist line for convenient weighing of each load.

Mobile, rubber-tire yard cranes handle and transport a wider variety of sizes, shapes and weights of material than single-purpose equipment can.

The tremendous wartime and post-war development of our industrial plants has seen a similar expansion in outside storage and warehousing facilities. This has meant even greater reliance in recent years on the mobile, rubber-tire crane as a material handling tool. The operation and economic advantages of this type of equipment are as numerous as the materials it can handle, not to mention the extra "bonus" jobs it can perform.

A ONE-MAN YARD CREW

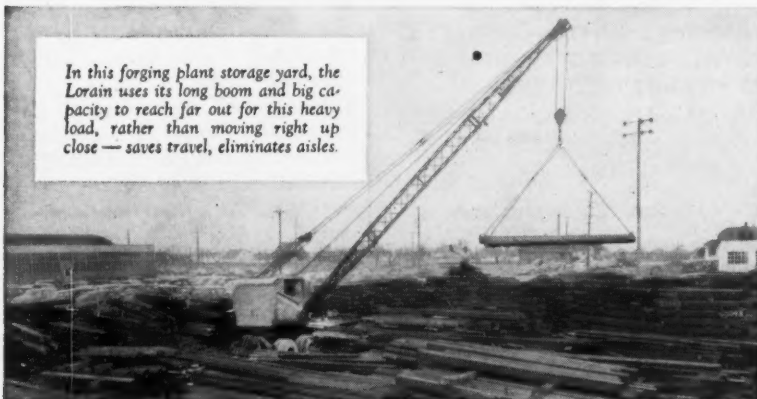
The Self-Propelled Crane, most popular of material handling yard cranes, consists of a completely revolving turntable mounted on a rubber-tire carrier with the operator controlling all crane and travel operations from the turntable cab.

Here are a few of its outstanding advantages.

1. **Unrestricted mobility** — Unlimited by tracks or fixed structures, it can serve all parts of yard, travel any reasonably smooth surface.
2. **Unlimited handling** — Handle any size, type or shape material up to 30 tons.

3. **Saves labor** — One man replaces a "gang" with more efficiency, greater safety.
4. **Unvarying efficiency** — Can work 24 hours a day... in any kind of weather.
5. **Simultaneous hoist, swing, travel** — Any combination of operations for maneuverability and efficiency.
6. **More storage area** — Long booms reach high and far, stack materials higher... fewer space wasting aisles needed... more storage volume per sq. ft.
7. **Lifts, transports, pushes** — Loads may be suspended from boom or carried on utility platform; also power to push or pull railroad cars or trailers.
8. **Bonus jobs** — Crane capacity for construction, maintenance and erection jobs. Not just a one-job machine.

The Self-Propelled Crane can well be your key to better yard material handling. Its capacity, reach, mobility and one-man operation are reasons scores of industries are switching to this modern, mechanized method.



In this forging plant storage yard, the Lorain uses its long boom and big capacity to reach far out for this heavy load, rather than moving right up close — saves travel, eliminates aisles.

BY THE THEW SHOVEL CO.
Manufacturers of
LORAIN CRANES FOR INDUSTRY

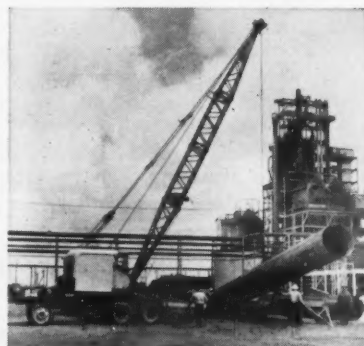
The statement has been made of Lorain Cranes that they will "handle any type, size or shape material." There are more than 16 basic types of front end attachments available (as illustrated) to permit handling anything from ashes to steel.

16 ATTACHMENTS — TO HANDLE SCORES OF MATERIALS



A COMPLETE LINE OF MATERIAL HANDLING SPECIALISTS

The Thew Shovel Co. builds a complete line of "Lorain" material handling cranes. In addition to the popular single-engine Self-Propelled Crane, 2-engine, 30 m.p.h., rubber-tire Moto-Cranes are available with lifting capacities from 6 to 45 tons. Lorain Cranes can also be crawler mounted where required by ground or travel conditions. Thew-Lorain Distributors, located in all principal cities, can assist you in solving your material handling and yard storage problems.

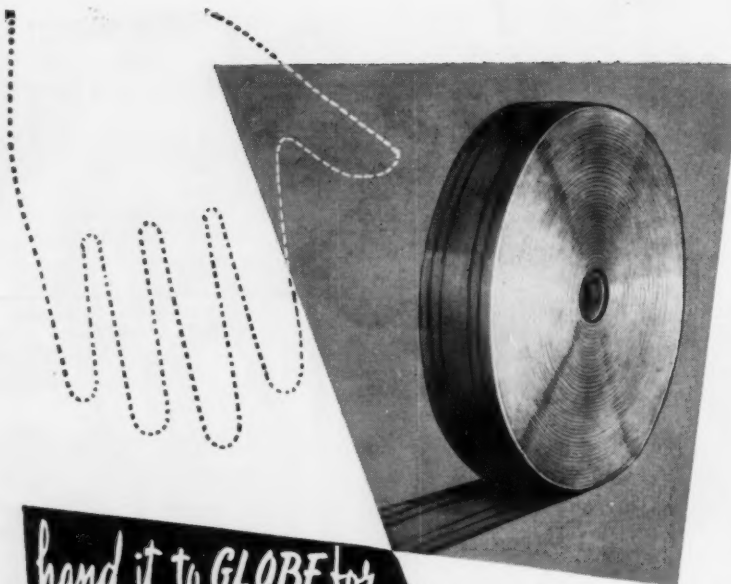


Plant construction and maintenance are typical "bonus" jobs that versatile Lorain Cranes can do for you — in addition to your material handling.

Lorain Cranes

THE THEW SHOVEL CO., LORAIN, OHIO

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hand it to GLOBE for
these 5 BELTING extras

1. EXTRA ENGINEERING —

When you specify GLOBE you are actually putting specialists with a half-century of experience and scientific research into your plant.

2. EXTRA DURABILITY —

GLOBE'S exclusive, perfected weaving processes and top quality yarns assure you the toughness in belting that will KEEP your plant going.

3. EXTRA STRENGTH —

GLOBE'S compact, solid weave insures high tensile strength and minimum stretch.

4. EXTRA SERVICE —

Longer-lasting, better-made GLOBE BELTING gives continuous, trouble-free flow and economical service.

5. EXTRA EFFICIENCY —

There is a GLOBE BELTING for every conveying and elevating job, for every power transmission need—each made to fit exactly your requirements of flexibility, surface and structure:

SOLID WHITE COTTON BELTING • STITCHED CANVAS BELTING
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OVERHEAD HANDLING

Continued

dry. Mechanization eliminates this work, and makes other jobs more pleasant by better housekeeping and reduced accident risks. Also, supervision is simplified and the men themselves welcome mechanical charging.

Large, expensive charging floors are no longer required when cupolas are charged automatically. All that is required is a light service platform. Elimination of the charging floor is often an important step toward better melting, because too often the limitations of building design and headroom make it necessary to place the charging door lower than it should be for greatest efficiency.

With mechanical charging, the door may be raised above the roof line if necessary to permit a greater depth of charge above the melting zone. This preheats a larger amount of iron, gives greater melting speed, hotter metal and a higher coke ratio.

Better Castings Result

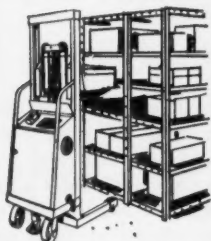
Many foundries find that one of the greatest benefits from mechanized charging comes from better, more economical melting, with hotter metal and fewer defective castings. The smooth, even flow of materials from yard to make-up platform makes it easy to proportion the charge accurately.

No foundry is too small to benefit from a smoother flow of materials. Medium size and larger foundries are usually able to employ an overhead crane in the yard to unload incoming materials, generally using a magnet to handle pig iron and scrap, and a clamshell bucket or conveyor for coke and stone. Such foundries are supplied with coke and stone bins, and a batch weigh hopper with hydraulic or air operated gates which release an accurately-measured charge of coke and stone into the charging bucket.

The proper use of scales and other weighing equipment is vital in order to measure charges accurately. Also, the use of a crane scale above the pouring ladle can

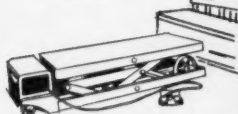
FLOW

STRUCTO RACKING



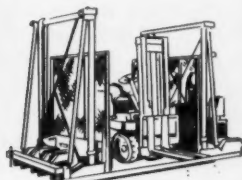
LIGHT DUTY LIFTER

For quick easy stacking of loads



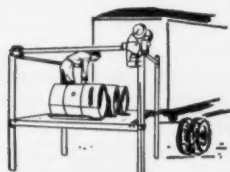
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D. STEEL ROLLER CONVEYORS. Light, Medium, Heavy Duty. Ball bearing rolls. 10' and 5' sections. 45- and 90-deg. curves. Light Duty: 850 lb. capacity; Medium Duty: 1200 lb. capacity; Heavy Duty: 1500 lb. capacity—per 10' section.



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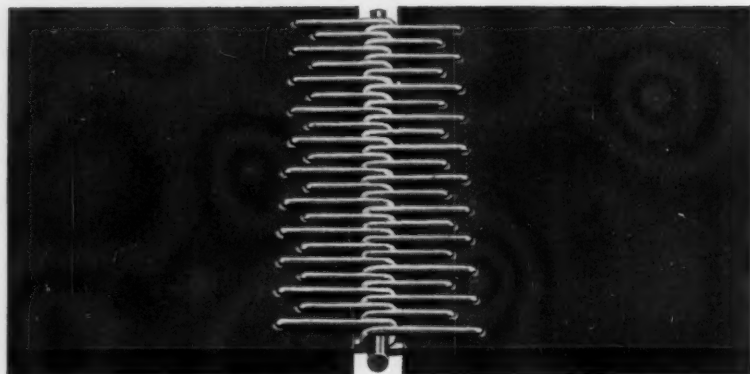
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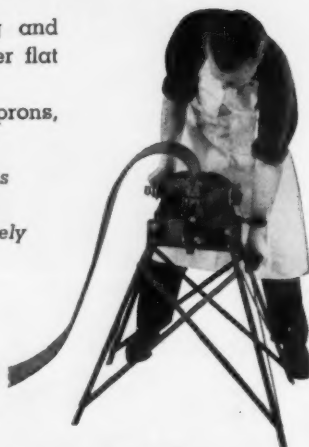
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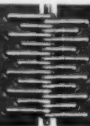
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OVERHEAD HANDLING

Continued

result in time savings through knowing the amount of metal a mold will take and pouring accordingly. There is a further savings in costs through controlling the amount of metal poured into the pouring ladle, since there will be no unused metal to be remelted.

The Pioneer Tool Engineering Company of El Segundo, California, uses such a crane scale to determine the exact amount of molten aluminum being poured into the bull ladle in its manufacture of cast aluminum tool and jig plates.

No Error

The liquid aluminum is tapped from a 45,000-pound reverberatory furnace into a 3000-pound-capacity pouring ladle. By watching the scale, the flow of metal into the ladle can be shut off when the required amount is reached. This pre-measured aluminum can then be used to pour plates of a given thickness without error.

Pioneer saves hundreds of dollars by being able to accurately weigh the amount going into each casting. Before the company acquired the scale, the chance for miscalculation was great. If too much was poured, the excess had to be machined off; if too little was poured, the casting either had to be scrapped or machined down to next smaller size. Since the castings must be machined to within .010 inch, the problem was critical.

The examples cited here are typical, and show evidence that today's foundry is mechanization-conscious. And, the results of introducing mechanization to foundries were aptly expressed by the president of a large foundry when he said, "... a mechanized foundry benefits everyone."

FLOW thanks the following companies for photographs and data: American MonoRail Company; Detroit Hoist and Machine Company; Harnischfeger Corporation; Hydroway Scales, Inc.; Loudon Machinery Company; Manning, Maxwell & Moore, Inc.; Martin-Decker Corporation; Whiting Corporation.

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the fewest
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trips to the
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Heavy-duty industrial truck engine operates at optimum RPM for least strain and abuse. Pistons are balanced to grams instead of ounces, crankshaft to 4 inch-ounces, connecting rods to 2 grams. Compact, rigid "power train" requires no troublesome universal joints. Clutch housing is split for better accessibility. Single oil supply lubricates entire assembly. Large full-floating, self-equalizing, self-energizing brakes have single-point adjustment.

Baker "FG" gas fork trucks, available in 3000, 4000, 5000 and 6000 pound capacities, are the only gas trucks with a full 6-months' warranty... an added assurance. Write for specific bulletins.

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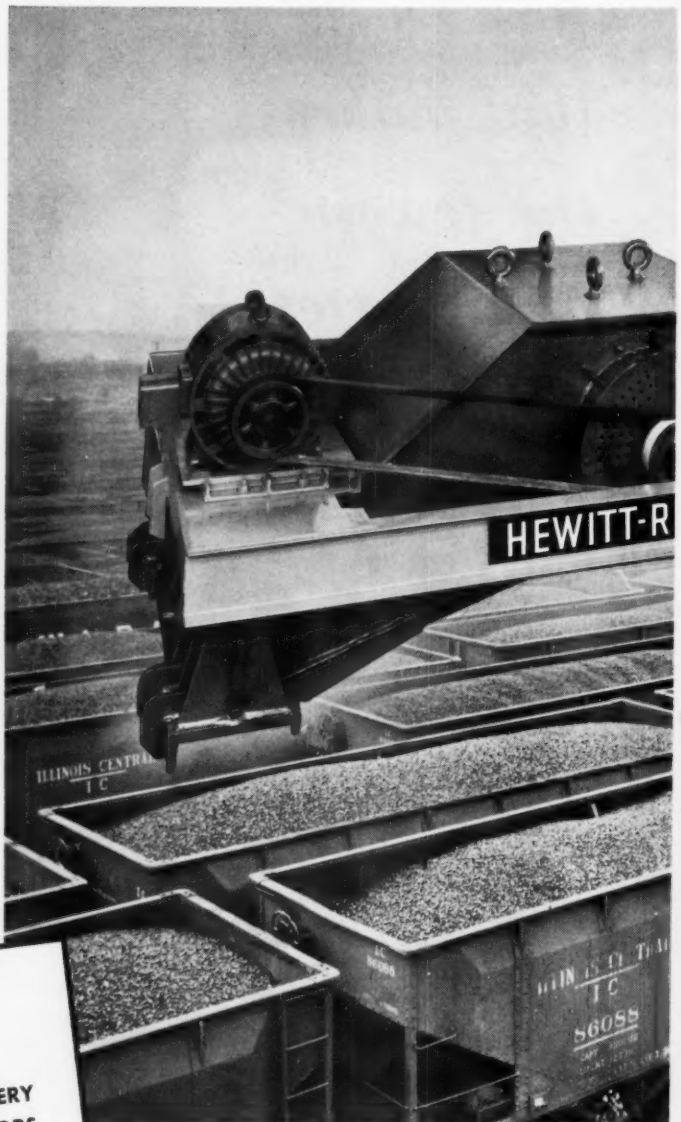
Unloaded by Hewitt-Robins

In the past 10 years, Hewitt-Robins Car Shakeouts have unloaded more than 1.2 billion tons of 50 different types of materials. Some of these shakeouts have handled as many as 100 cars daily.

Ten cars a day can be unloaded by the Hewitt-Robins 3½-ton GS (General Service) Car Shakeout. The 5-ton HD (Heavy Duty) model will unload up to 100 cars a day of wet, compacted or partially frozen loads. The tonnage capacity of each shakeout will vary, naturally, depending upon the nature of the material. Both models will fit all hopper bottom cars in domestic service.

These Car Shakeouts have a 5/32-inch stroke — 1500 vibrations a minute. The vibration rate is easily adjustable for specific applications. In both models, the motor platform is supported on coil springs to protect the motor from vibration. The HD Model vibrating frame is of welded construction throughout, stress-relieved after welding. The GS Model is fabricated from rolled sections constructed with high-carbon, heat-treated bolts. Both models are available with recommended companion twin-hook Car Shakeout Hoist.

Hewitt-Robins Bulletin 163 offers complete information about both Heavy Duty and General Service Car Shakeouts. Ask for a copy from our nearest sales office or write to our executive offices in Stamford, Connecticut.



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10 YEARS

Car Shakeouts

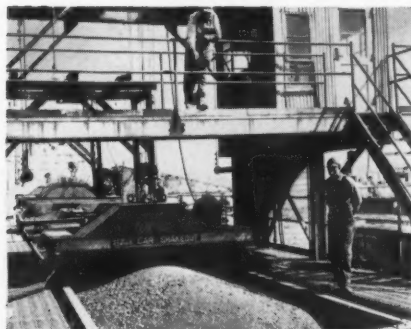


-ROBINS

OFFICES: STAMFORD, CONN.

Industry Case History

Heavy Duty Car Shakeouts
Unload up to 3000 Tons per Hour



During 1946, a leading coal handling company of Chicago, Illinois, installed three Hewitt-Robins Heavy Duty Car Shakeouts to unload coal from hopper cars for transfer to Great Lakes freighters. Two additional units were added to the line system in 1951.

Over the years, the five units have efficiently unloaded the maximum tonnage that could be handled by the other equipment in the complete line. Since their installation, these Car Shakeouts have unloaded more than 30,000,000 tons—in some periods as many as 3000 tons per hour!

After performance evaluation the company reports the units . . . save time . . . save money . . . have generally paid for themselves in two seasons of operation. Their satisfaction has been expressed by ordering five more units for a similar installation.

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APRIL, 1956

95

FUMES COST MONEY!



Photo courtesy Stokely-Van Camp, Inc., Frozen Food Division

Noxious, foul-smelling exhaust fumes and odors need never be a problem in your plant again. For wherever you operate LP or gasoline-powered equipment indoors—even part time—Oxy-Catalyst Exhaust Systems provide an effective way—the *only* way—to good fume elimination.

Operating by catalytic reaction, the Oxy-Catalyst OCM eliminates 95% or more of the dangerous carbon monoxide—90% of the irritating hydrocarbons—from the exhaust gases of lift trucks, bulk handling trucks, stationary engines—any type of equipment run by gasoline or by LP gas.

You know how both gasoline and LP exhaust fumes can cause headaches, eye irritation, nausea and worse. These mean production slow-downs that cost you money. With the OCM, you can run your equipment *continuously, efficiently, safely*, without objectionable exhaust fumes, in even closely confined areas. And you get the full benefits of greater employee productivity and morale.

If you're interested in cutting costs by speeding production—if cleaner safer air is important in your plant—write now for complete information on the OCM and name of your nearest supplier.

For Diesel Exhaust Fumes New OCM Dieseler reduces below objectionable levels harmful, irritating exhaust from any 4-cycle diesel engine when running at or over 60% load. Write for details.



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INTEGRATE CONVEYORS FOR CONTINUOUS FLOW

(Continued from page 65)

appreciably before they are handled. One such instance is in an aluminum foundry where, for expediency, hot ingots, or pigs, were manually stacked moments after they were cast.

This was one of the most dangerous and uncomfortable jobs in the entire foundry. Four men, working in pairs, did the job in 15-minutes-on, 15-minutes-off alternating shifts. They worked under extremely hot conditions and, although they wore asbestos gloves and aprons and heavy shoes, there was the constant danger of burns.

The pigs were stacked immediately after they were cast. As a matter of fact, only moments before they were handled, they had been in a molten state.

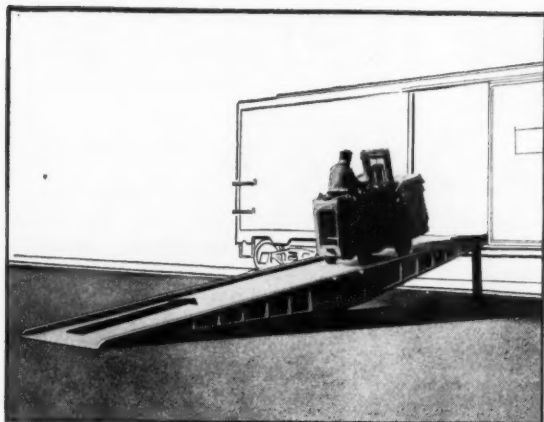
Automatic Stacking

The need to mechanize this particular operation became increasingly evident. Finally, an automatic pig-stacker was designed to perform this hazardous job.

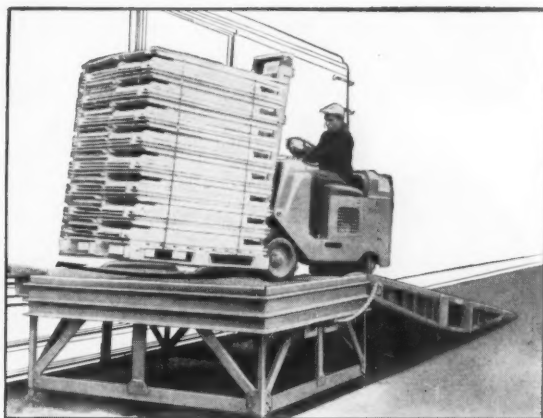
As pigs drop from the mold conveyor, they are now automatically picked up and positioned on a slat conveyor. When a stack of 40 to 50 pigs is complete, the conveyor advances and a new stack begins without interruption. The stacks are then picked up from the conveyor by fork truck.

The question might be raised here regarding the flexibility of conveyors to adapt to production changes. And, the answer could be supplied by the Oberdorfer Foundries, aluminum foundries. They increased production 300 percent without increasing floor space, and saved manpower by handling molds and castings on an overhead trolley conveyor.

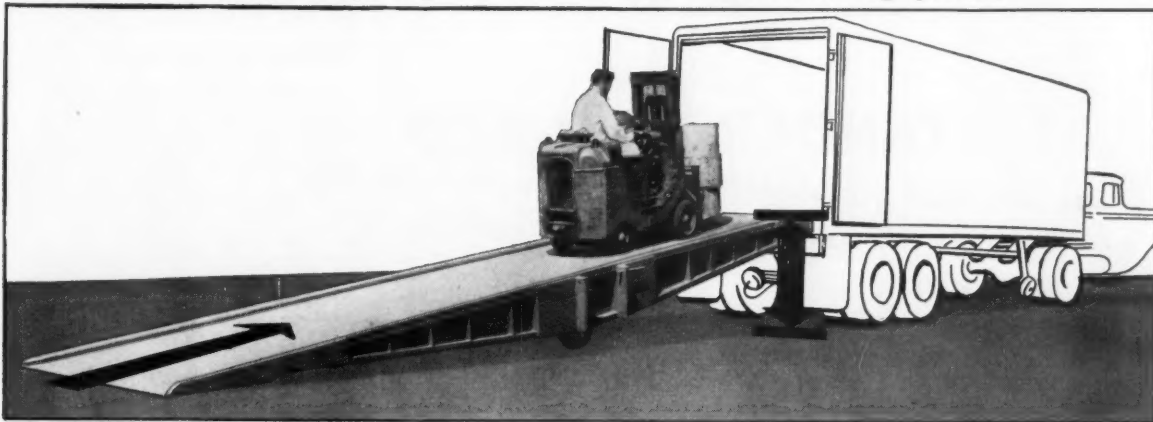
The company was faced with the problem of increasing the capacity of the cylinder head aluminum foundry from 25,000 pounds to 100,000 pounds a day. While the increased schedule required several times more floor space, expansion had several drawbacks. Not only was a new construction expensive, but it also was slow and there would be a considerable interruption in the production sched-



Ground level car loading—at right angle



Ground level car loading—parallel



Ground level trailer loading

Solve your ground-level loading problems with Magcoa portable magnesium Yard Ramps

Solved: your ground-level loading problems—by a Magcoa *portable* Yard Ramp. Loading operations jump into high speed with a Magcoa magnesium Yard Ramp—a rugged, easy-to-move loading dock, where you want it, and when! One man moves it without the aid of powered equipment. A manually operated hydraulic lift positions it. You get fuller use of present facilities, lift trucks and operators—less idle time. You cut demurrage charges, and eliminate any need for additional dock facilities.

Speed Plus Safety—As safe as it's fast—your Yard Ramp; designed and built for safety in moving and positioning. Locks securely in place. Long-wearing tread plate assures safe, positive traction. Quarter-round safety curbs—an exclusive Magcoa feature—prevent run-offs, safeguard workers, protect tires, trucks and loads. Special rounded castings at curb-ends give added protection on sharp turns. Rugged bridge-type underbracing is engineered for your load requirements—with a comfortable margin of safety.

Car loading, right angle—For fast, straight-run loading, place the Yard Ramp right angle to the car. Safety hooks grab the sides of the car, hold the ramp securely.

Car loading, parallel—When track-side space is limited, Magcoa solves

the problem by using a portable magnesium table, a Dockboard and a Yard Ramp. Place the table at the car-door, and run the Yard Ramp up to it alongside the car. The Dockboard completes the set-up for fast, safe loading. The magnesium table features rugged bridge-type construction, fork slots to facilitate movement by lift truck, safety tread deck . . . and removable safety curbs which permit simultaneous loading from two or even three sides.

Trailer loading—Same easy, fast, safe operation, the same substantial cash benefits—in using the Yard Ramp to load trailers from the ground. The hydraulic lift raises the Yard Ramp into place; and a rugged chain-hitch holds it there. This versatile method unravels congestion on your stationary ramp, ends any need for additional facilities.

Wide range of sizes and capacities. Five standard sizes of Yard Ramp: lengths to 36 feet; widths, 60 and 70 inches; weights, 1,150 to 1,950 lbs.; capacities to 16,000 lbs.; or a "special" if required.

What's your loading problem? Is lack of ramp facilities slowing your yard handling? Big demurrage bills? Idle lift trucks and operators? Or, is yours a dock problem? Low rail dock? Low truck dock? Narrow, congested dock? Spilling or damaging loads?

Planning the dock for a new plant or warehouse? Modernizing an old dock? Switching to higher-capacity lift trucks or pallet trucks?

Whatever the loading problem, the odds are 1000 to 1 that your local Magcoa Representative has encountered it before—and solved it!

A Suggestion: Send for our free Yard Ramp bulletin and our new bulletin, "What to do about Difficult Docks." They are loaded with practical, helpful ideas.

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*the hoist that gives you
important extras at
no extra cost*

FROM THE STANDPOINT of engineering and materials, Standard Lo-Hed is the most modern heavy duty hoist ever put on the market. This is a really heavy duty hoist, *not* one that wears out in a few years. It's made in 2- and 3-ton capacities... quantity-produced for moderate prices and delivery straight from stock. More than that, Standard Lo-Hed gives you — *for free* — a whole group of extras that usually cost real money. Among these extras are:

- Hoisting speed: 20 ft. per minute;
- Lower limit safety switch;
- Spider for gears to permit checking with cover off;
- Anti-friction thrust bearing on hook nut;
- A 110v pilot circuit on AC voltages of 220v and up;
- All-steel, welded construction combining light weight and rigidity.

Standard Lo-Hed Hoists are pulling down materials handling costs the country over. They're available in your choice of bolt suspension, plain trolley, hand-gear trolley and motor trolley types. Write for fully descriptive literature.

★ ★ ★ ★ ★

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AE products are: Taylor, Perfect Spread and Vibra-Grate Stokers, Hele-Shaw and Hydramite Fluid Power, Lo-Hed Hoists, Lo-Hed Car Pullers, Marine Deck Auxiliaries.

INTEGRATE CONVEYORS FOR CONTINUOUS FLOW

Continued

ule when it was time to move into the new facilities.

Production costs would have increased with the new facilities because the molds would be spread over a greater area—Which would mean the metal would have to be carried further. Finally, the old schedule presented a problem of unfavorable working conditions because of the heat, gas and fumes from the molds. And, the new increased schedule would have compounded the problem.

Solution: Conveyors

It was finally determined that physical expansion of the plant was a poor solution to the problem. Instead, it was decided that expansion of working area *upward* was possible without increasing the size of the plant. Because of non-productive overhead space, the problem was solved with overhead conveyors. A 4-inch overhead trolley conveyor was installed to handle molds, and a 3-inch system for castings.

The mold-handling conveyor starts at the core ovens. Dry sand molds are built up on a belt conveyor and are transferred to a bench-height, shelf-type rack which is suspended from the overhead conveyor. Pouring cores are attached to the molds as they move along an out-of-the-way wall to the pouring floor. At the pouring floor, the conveyor descends so that the molds pass the pourers at an ideal height for pouring.

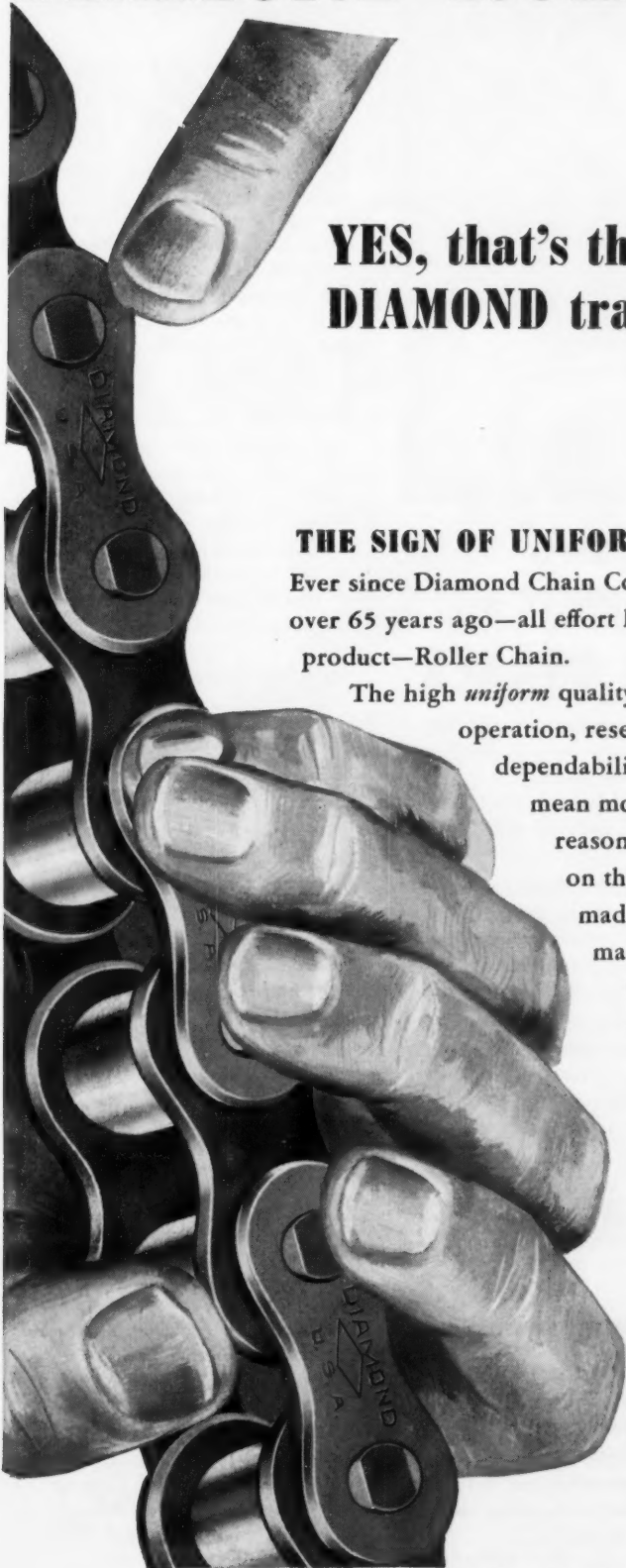
The conveyor parallels a line of eight holding pots, so that molds and pots are always in the same relative position regardless of which pot is being worked. A control button on the pouring floor permits pourers to adjust the conveyor to any particular needs.

As the molds pass from the pouring floor, they ascend to a penthouse where a series of loops provides cooling time. By removing the molds to the roof of the building immediately after pouring, the problem of gas, fumes and heat has been eliminated. The conveyor then carries the cooled molds to a knockout room where the

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FLOW

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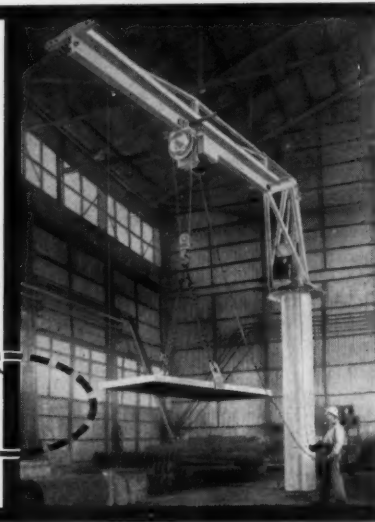
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CHAINS**

NOW! Electric Power for Moving **BIG LIFTS**

UP
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Here is three dimensional, fraction-of-an-inch control for handling loads from 6 to 15 tons. Smooth starts and stops under full load with rotation either way at one-half rpm or less . . . and capacity load suspended anywhere on the 25' boom! Jib Crane available in pillar or base mounted types. All-welded steel construction; for indoor or outdoor use.

Optionally equipped with the LeTourneau Electric Hoist matched to *your* job requirements. Dual braking system: Positive, mechanical brakes stop and hold capacity loads; regenerative electric braking automatically controls lowering speed. Each safely controls 1½ times rated load.

LeTourneau AC motors power hoist, rotate boom, and operate trolley. These motors sustain temporary low voltages without damage, eliminating a big source of expensive down time. They are instant reversing, varying speed type, either single speed or two-speed control.



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Write today for literature on LeTourneau Jib Cranes and Hoists. There is a combination for your operation that will mean better handling at real savings.

F-113

INTEGRATE CONVEYORS FOR CONTINUOUS FLOW

Continued

molds are knocked off and dropped into a chute which carries them to a crusher on the first floor.

The casting conveyor is lighter than the mold conveyor in the interest of economy, since only the castings are carried. Shelf-type racks similar to those on the mold conveyor are used to carry the castings from the knockout room to the first operation on the ground floor where the chills are removed.

The castings are then replaced on the conveyor and cross the room to the saws where the gates are removed. This second station is located across the room to provide a second cooling period. And, to insure adequate cooling, a water tank about 15 feet long was installed under the conveyor system so that the castings are immersed for about two minutes.

Multiple Benefits

The conveyor system made it possible to reach a production level of 1600 aircraft and tank engine cylinder heads in each 16-hour day in a matter of a few weeks. In fact, at one time a production of 1900 units a day was sustained for 20 succeeding working days with eight men pouring.

The entire installation was completed in approximately ten weeks with no noticeable interruption in production, and paid for itself in less than a year. Inasmuch as the system is made up of standard units, it can be extended, shortened or changed to meet any schedule or type of casting.

Flow thanks the following companies for photographs and data: Allied Steel and Conveyors, Inc.; Carrier Conveyor Corporation; Harry J. Ferguson Company; Gifford-Wood Company; Lamson Corporation; Mathews Conveyer Company; Mechanical Handling Systems, Inc.; Metzgar Conveyor Co.; Samuel Olson Mfg. Company, Inc.; Richards-Wilcox Mfg. Company; Simplicity Engineering Company; Standard Conveyor Company; Stephens-Adamson Mfg. Company; Jervis B. Webb Company.

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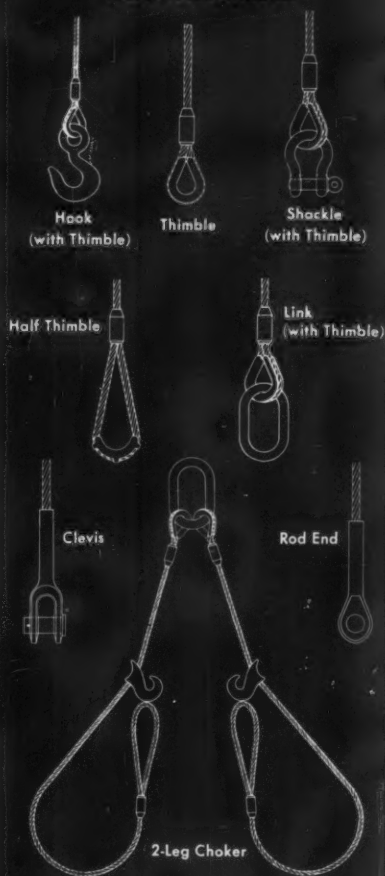
Slings

WHEN YOU
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a shot in the arm. Materials
move faster. Rassling with
cranky loops and lines is abol-
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"All-Purpose" Slings are all-steel. Wire
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swaged tapered sleeve which develops
the rated strength of the preformed wire
rope itself.

Shown at the right are some of the many
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ROEBLING

Subsidiary of The Colorado Fuel and Iron Corporation

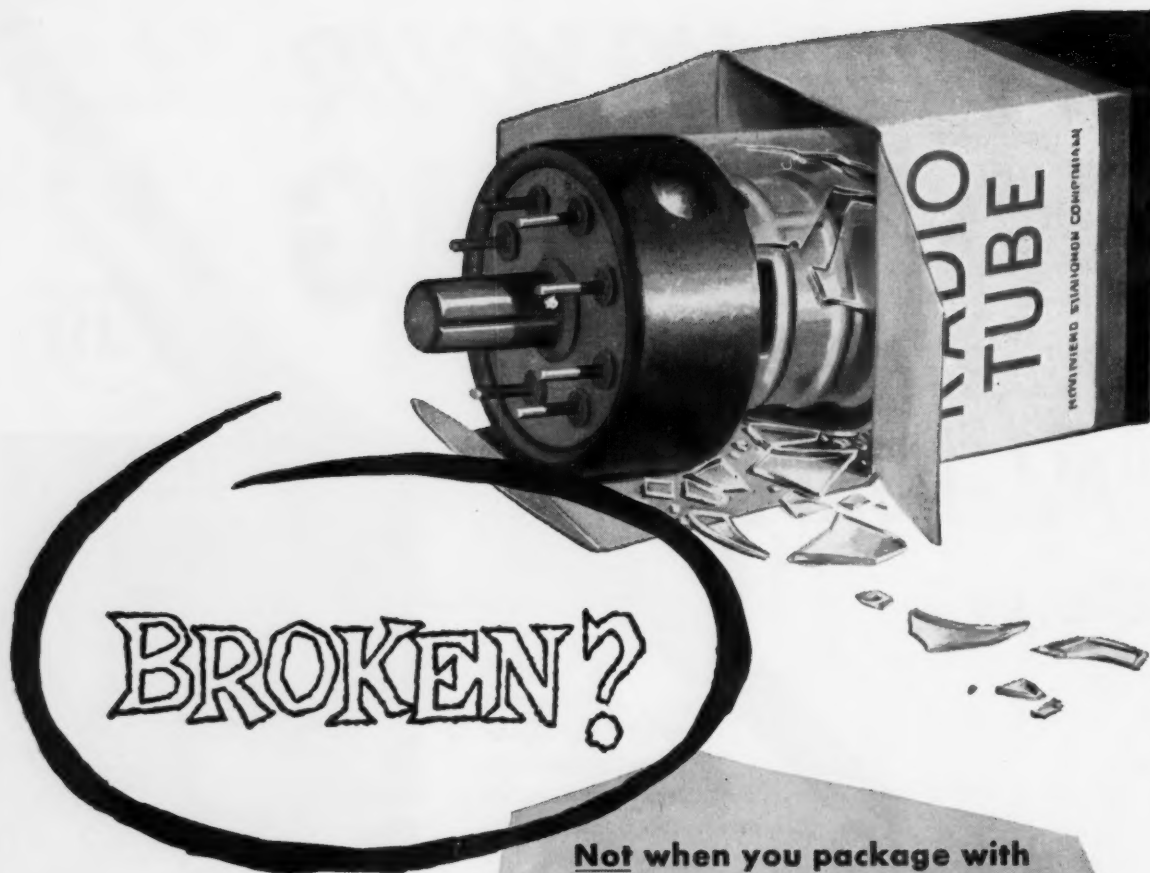
JOHN A. ROEBLING'S SONS CORPORATION, TRENTON 2, N. J. BRANCHES: ATLANTA, 934 AVON AVE. • BOSTON, 51 SLEEPER ST. • CHICAGO, 5528 W. ROOSEVELT RD. • CINCINNATI, 3253 FREDONIA AVE. • CLEVELAND, 13225 LAKEWOOD HEIGHTS BLVD. • DENVER, 4801 JACKSON ST. • DETROIT, 915 FISHER BLDG. • HOUSTON, 6216 NAVIGATION BLVD. • LOS ANGELES, 5340 E. HARBOR ST. • NEW YORK, 19 RECTOR ST. • ODESSA, TEXAS, 1920 E. 3RD ST. • PHILADELPHIA, 330 VINE ST. • SAN FRANCISCO, 1740 17TH ST. • SEATTLE, 900 1ST AVE. S. • TULSA, 321 N. BAYENNE ST. • EXPORT SALES OFFICE, 19 RECTOR ST., NEW YORK 6, N. Y.



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APRIL, 1956

101



Not when you package with

KIMPAK

If you want positive protection against breakage — switch to Kimpak Interior Packaging!

Kimpak's outstanding shock absorbency shields your product from rough handling. Protects it from movement within the carton or crate, and from dirt and cinders that sift into the container. And this superior protection costs you no more than ordinary packaging materials!

**For immediate delivery —
JUST CALL, THAT'S ALL!**

Your local supplier is now prepared to deliver — in quantity — a wide variety of Kimpak widths and thicknesses to fit your exact specifications. Call him today!



And here's another Kimberly-Clark product for your shop — Kimwipes Industrial Wipers. They're soft . . . disposable . . . absorbent . . . cost far less than ordinary wiping material. And Kimwipes wipe clean — without linting, scratching or streaking!



Kimberly-Clark Corporation • Neenah, Wisconsin

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PACKAGING & SHIPPING SECTION

PACKAGING ENGINEERING

SHIPPING

APRIL 1956

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An Easy Index to This Month's Advertisers

Are you looking for a particular type of packaging and shipping equipment? Listed below are advertisers according to type of product they are advertising in this issue. We have attempted to make your job a little easier by listing them as often as possible. To

use this index, find the type of product in which you are interested . . . turn to the advertisers listed under that product . . . circle the correct numbers on the reader service card, mail it, and you'll get complete information in a jiffy.

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Photo courtesy of Klein Supermarkets, Inc., St. Paul-Minneapolis

Colored stripes that roll on dry!

Lane marking stripes that simply roll onto the floor . . . are perfectly dry and ready for traffic the minute they're applied. "Scotch" Brand Plastic Tape sticks at a touch to any clean dry surface. Stripes last up to 2 years; are unaffected by acids, greases, salts, or most commercial solvents; give an overall saving of 30%. Eight easy-to-match colors: red, green, black, orange, blue, yellow, white, brown. Ask your tape distributor for further information or send for folder described at right.

PLASTIC TAPE . . . one of more than 300 pressure-sensitive tapes
for industry, trademarked . . .

REG. U.S. PAT. OFF.
SCOTCH
BRAND

The term "Scotch" is a registered trademark of Minnesota Mining and Manufacturing Co., St. Paul 6, Minn. Export Sales Office: 99 Park Ave., New York 16, N.Y. In Canada: P.O. Box 757, London, Ontario.

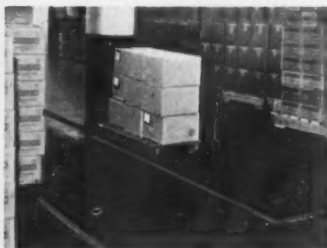
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APRIL, 1956

**Look what you
can do with it!**



MARK LANES for traffic with tough, durable "Scotch" Brand Plastic Tape No. 471. Even heavy materials-handling equipment won't "break down" these colored stripes.



DEFINE storage zones, work areas, etc. Different colors of "Scotch" Plastic Tape can be used to "code" markings for different types of areas. Standard widths, 2 to 4 inches.



IDENTIFY fire stations, emergency equipment locations, floor obstacles, etc. Special markings are easy to create with "Scotch" Brand; need no drying time between colors.



FREE folder gives details on "Scotch" Brand Tapes for lane marking . . . shows how lane marking can improve efficiency in your plant. Write on your letterhead to 3M Co., Dept. CG-46.





**Protective
Properties of . . .**

...Metal Tubes

**for Food
Products**

Collapsible metal tubes hold great promise for the future of food packaging. Besides their merchandising advantages they have important protective packaging features. Many problems still remain to be solved, however.

EMINENTLY successful in Europe, the collapsible metal tube may well prove a development of major importance in food packaging in this country as well. Recent advancements in packaging techniques account, in large part, for the increased interest in the merchandising of food in tubes by American food manufacturers and processors.

Besides the obvious merchandising aspects—attractiveness, convenience for the user—tubes have the advantage of providing long-time protection for foods in storage as well as in use. It is in the matter of product protection that the use of collapsible metal tubes have given rise to technical problems in the food packaging field. It is in this regard that extensive research and development by tube manufacturers, with the cooperation of food processors, has pointed the way to wider acceptance of the vast potentialities of the tube by the food industry as a whole.

New developments in packaging techniques are removing doubts concerning product contamination in much the same manner as similar problems were solved with the introduction of the tin can to the food packaging field. At the outset it can be stated that the metal tube gives excellent protection against drying out and contamination of the food by outside elements. An airtight container, the metal tube protects a food product indefinitely in storage. Tubes of honey, for example, packaged by a pioneer food processor more than twenty years ago, were recently sampled and their contents found to be completely fresh and flavorful.

Once opened, the metal tube is readily "resealed" and made air tight to keep the remaining contents fresh for future use, a highly desirable advantage for the less frequently used foods such as meat and fish pastes, condiments and similar food products not ordinarily used every day by the consumer. Even where the tube cap is inadvertently left off after the tube has been opened, the danger of drying out or contamination by air is minimized because of the very small size of the tube orifice. Because a product packaged in a collapsible tube does not have to share the availa-

(Continued on page 122)



How General Box engineered wirebounds cut packing time, damage loss, and setup time for a leading supplier of platform scales



Where it used to take about four hours to assemble, check, and reseal a scale after shipment, it can now be uncrated and adjusted in less than 45 minutes. This is one of the major advantages reported by Fairbanks-Morse after tests and more than a year of experience with wirebounds designed in cooperation with General container engineers.

Other advantages include the reduction of packing time by half and elimination of losses from glass breakage, paint abrasion and other damage. In addition, Fairbanks-Morse is shipping 42 different models of dial scales using only two different block sets and six different wirebound crates.

The complete package includes special blocking to protect delicate mechanisms, and a polyethylene cover to keep out dust and moisture. These weighing machines in their L-shaped crates passed all requirements of the standard National Safe Transit test series.

The design laboratories of General Box can probably help you make significant reductions in your packing and shipping costs. It's easy to find out. Just let us send a man. And we'll be glad to send the free illustrated booklet, "General Box."

Factories: Cincinnati; Denville, N. J.; East St. Louis; Detroit; Kansas City; Louisville; Milwaukee; Sheboygan; Winchendon, Mass.; General Box Company of Mississippi, Meridian, Miss.; Continental Box Company, Inc., Houston.

General Box

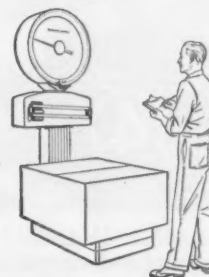
1847 Miner Street, Des Plaines, Illinois



Engineered Containers for Every Shipping Need

Wirebound Crates and Boxes • Generallift Pallet Boxes • Corrugated Boxes • Cleated Corrugated and Watkins-Type Boxes • Stitched Panel Crates • All-bound Boxes

1955 Wirebound Winner
National Packaging Competition



Visit Our Booth at the National Packaging Exposition,
Atlantic City, April 9-12



Order-Handling



4. APPLETON LABELS, which were printed, addressed, counted and cut-to-size by label machine at dispatcher's desk, are applied to containers which make up the

completed order. Because the correct number of labels was prepared, packers are able to detect shortages if there are too few packages for the labels on hand.

1. **PUNCHED CARDS** identify each of the 18,000 items stocked by Appleton Electric Co. When order is received, one card is pulled for each item ordered and invoice forms are prepared. Cards then go to warehouse and shipping papers go to shipping office.

2. **DIE-CUT STENCIL**, which will be used in making shipping labels, is cut in shipping department office. Addressing information is taken from punch-card prepared forms. Stencil and papers go next to dispatcher.

3. **LABEL PRINTING MACHINE** at dispatcher's desk is used to prepare as many labels as will be necessary for any order. System is timed so that labels are run off at the same time that order is received from warehouse.



Bottleneck Broken

Punch-card order-handling system and label printing machine have been coordinated at Appleton Electric Co. to smooth out operations in filling and shipping orders. Now, increasing business volume poses no problem.

A LABEL-MAKING system put into effect by Appleton Electric Co. has helped solve a severe bottleneck problem which plagued the firm for many years. The difficulty centered in Appleton's Chicago warehouse where the influx of orders for conduit fittings, lighting fixtures, reel lights, etc. had accelerated so greatly that they could not be processed quickly enough to keep up with production schedules.

Appleton warehousemen took their first step toward solving the bottleneck by adopting a high-speed, yet flexible, method for preparing their own shipping labels. According to Richard Hedberg, Superintendent of the Warehouse and Shipping Department, the conversion to the new label-making system was accomplished quickly and economically.

The new system starts with the order service department of the firm. Here, there is a filing system where each of the company's 18,000 items is categorized and numbered on punched cards for use with automatic tabulating equipment. As orders are received, the order service department takes from its files one card for each item ordered by the customer. The cards are then sent, with the customer's order, to the punch-card department where the invoice forms are prepared from the cards. Shipping copies are sent to the shipping department office and the punched

cards to the warehouse where the day's orders are filled.

In the shipping department office, a girl types the customer's name and address, customer's order number and Appleton's customer code number on a small mimeograph-type stencil that has been die-cut with a facsimile of Appleton's label form. The stencil and the shipping forms are taken over to the dispatcher who is situated near the bottom of a conveyor system running down from the warehouse on the upper floors. The dispatcher, acting as coordinator between shipping and the warehouse, calls each order number over an intercom system to the warehouse above. The items for a specific order are sent down on the conveyor where they are stopped and assembled near the dispatcher's desk.

At this point the order is checked for accurate count and the exact amount of labels are run off. To produce the labels, the die-cut stencil is simply attached to a label printing machine which is on the dispatcher's desk. The machine is set for the exact number of labels needed. A roll of gummed paper stock is automatically fed into the machine, the labels are printed, addressed, counted and cut-to-size, all in one operation. The automatic counting eliminates any waste from surplus labels and saves the time it takes for a manual count.



ROLLER TUBE CONVEYORS have met needs for smooth, efficient movement through kit-packing and shipping departments at Heath Co. After they were installed, efficiency was increased almost 50 percent.

Volume Increased 50% by . . .

Conveyorized Packaging and Shipping Departments

by H. C. Knapp
Mgr. of Manufacture
Heath Co.

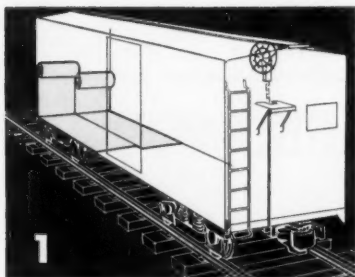
BECAUSE all business of Heath Co. is by direct mail, packing and shipping are very important links in the chain of events beginning with a customer's order and ending when he receives the material he requested. Our firm, a subsidiary of Daystrom, Inc., is a leading manufacturer and supplier of kit-form electronic test equipment, high fidelity audio equipment and electronic kits for radio amateurs.

Recently, we found that, because of tremendously increased sales volume, we had outgrown our original kit packing and shipping methods. It became necessary to re-design our entire kit packing and shipping operation for increased efficiency in order to handle the greater volume.

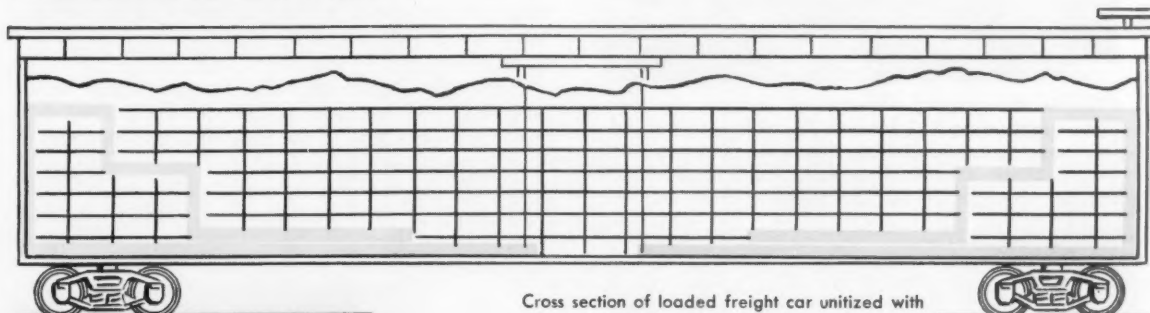
A system of roller conveyors, constructed of tubing which has a tightly adherent zinc coating that resists

rust, has met our needs for smooth, efficient movement of delicate components. Efficiency in our kit packing and shipping departments went up between 40 and 50% after we installed the special conveyors. Before they were installed, eight employees were required to pack, weigh and address our daily output. Now, we process about 50% greater volume with the same number of employees.

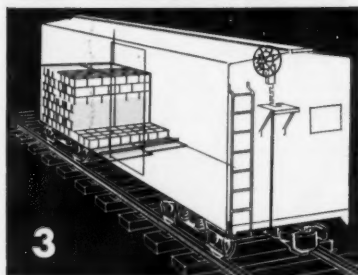
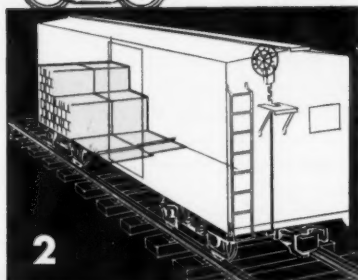
There are now 26 separate conveyor lines totaling 362 feet, operated both by power and by gravity. The system in the shipping department includes six main lines aggregating 202 feet of 2½-inch diameter rollers mounted on an 18-inch wide track. Two of the gravity-flow lines have 90-degree turns. One of the straight lines is power operated with an automatic control that stops and starts the feed whenever a package reaches a check point.



How to Cut Damage up to 75% with **FIBREEN "258"** "Safety Belt" Unitized Loading




Cross section of loaded freight car unitized with Fibreen "258" (shown in yellow).



With conventional loading methods, cartons, cases, and their contents are crushed and damaged in the openings that result from the sway and "stop and go" jolting of freight cars. The Fibreen "258" Method of unitized loading prevents this type of damage. Sturdy Fibreen holds the load tighter together and acts as a "safety belt" as shown in pictures at the left and above. Shippers report up to 75% savings in damages. AND THE COST IS LESS THAN \$5 A CAR!

Fibreen "258" is specially tailored to fit your freight cars in widths of 54 inches and 96 inches. Send coupon for samples and complete instructions.



FIBREEN

INDUSTRIAL PACKAGING PAPER

Waterproof

Airtight

Strong!

AMERICAN SISALKRAFT CORPORATION
DEPT. FW-4, ATTLEBORO, MASSACHUSETTS

Please send me sample of FIBREEN "258" and Instruction Bulletin explaining the Fibreen "258" Method for Unitized Loading.

Name.....

Company.....

Address.....

City..... Zone..... State.....

Circle No. 9 on Reader Service Card for more information

CONVEYORIZED PACKAGING AND SHIPPING

Continued



SYSTEM in shipping department includes six main lines aggregating 202 feet of 2 1/2-inch diameter rollers mounted on an 18-inch wide track. Top two lines in this photo are conveyor feed from upper floor. Bottom conveyor is feed to shipping from storage.



LAST SECTION of conveyor line after packages are wrapped, weighed, stamped and ready for delivery. Infra-red lamps overhead speed-up drying of labels.

Units formerly were brought down from the main floor to the shipping room by dumbwaiters. They were then moved on rolling tables to packing tables where they were transferred by hand, re-loaded on the rolling tables and finally placed by hand into bins for shipment.

Now, a 60-foot curving roller conveyor brings units weighing from one to 30 pounds down a gradual decline by gravity flow to the packing area. After packing, the units may enter another 50-foot gravity feed line leading back under the upper track toward parcel post bins. Or, they may be placed on a straight 50-foot line, at a third level, leading to the express and freight area. This line is also operated by gravity flow.

Units to be weighed pass onto a 12-foot power feed line, which is automatically halted whenever a package passes over a mercury switch projecting up between the rollers. When a package is taken off for weighing and posting, the line starts moving again, bringing a new unit into convenient position for the clerk. After they have been weighed, the packages are placed on one of two 15-foot gravity flow lines leading to parcel post bins.

Courtesy Armeo Steel Corp.

STENCILS

ARE NOW "6 WAYS" EASIER TO CUT
ON THE NEW DIAGRAPH-BRADLEY

SPEEDMODEL



STENCIL
CUTTING MACHINE

Years ahead engineering features such as these — light-weight aluminum alloy castings in all spinning parts,

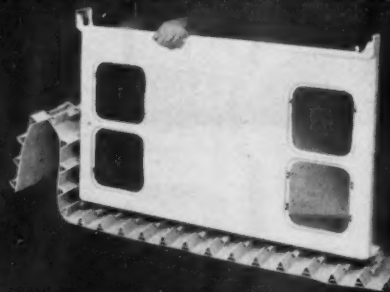
shear action punches, pin point feed mechanism, and wide margin guide lines plus contour designing of the flat top head and feed mechanism housing make the Diagram-Bradley SPEED MODEL, your most economical and efficient buy in a stencil-cutting machine today.

DIAGRAPH-BRADLEY INDUSTRIES Inc.
P. O. BOX 269 HERRIN, ILLINOIS
DISTRIBUTORS IN ALL PRINCIPAL CITIES

D.B.
INDUSTRIES

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112

SUS-RAP PROVIDES SAFE TRANSIT and Economical Packaging



Exclusive Vertical-Horizontal suspension safeguards your product both in and out of its shipping carton . . . Fewer packaging components and the elimination of pad folding reduce labor and material costs.

SUS-RAP is engineered to your product and pretested by N.S.T. procedures

SUS-RAP

Laboratory Developed and Tested Packaging

VANANT COMPANY, INC. 954 S. Water Street Milwaukee 4, Wis.

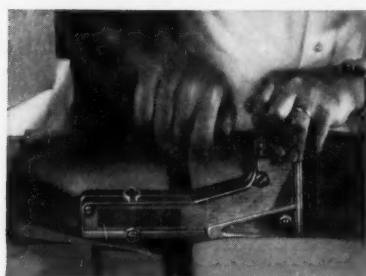
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FLOW

Whatever your business may be...

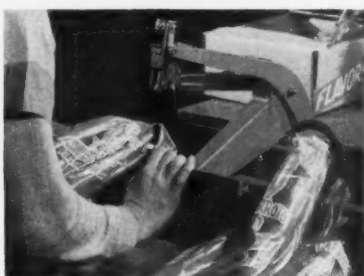
you can save money with stapling

Below you see six of the vast number of businesses which report savings with Bostitch stapling. In shipping, Bostitch provides quick, easy carton closures—on seams, tops and bottoms—that actually strengthen the cartons. In production, everything from paper to sheet metal is fastened with Bostitch equipment—

speeding output, cutting costs. A Bostitch Economy Man will be glad to help with your fastening problems. He's one of 350 trained fastening specialists working out of 123 cities in the U. S. and Canada. Over 800 different models of Bostitch staplers use 200 types of staples, tailored to your job.



Using Bostitch Autoclench stapler, this man says he seals boxes "five times faster" than he can with glue. Saving "over 50%."



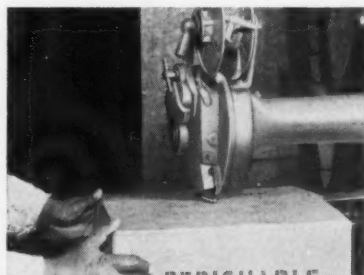
To seal carrots in plastic bags, packer switched from wire twists to Bostitch staples. "tripled volume, cut costs 60%."



Electrically operated Bostitch stapler bags hardware parts twice as fast as hand stapler. "Savings in labor alone, 50%."



Air freight bills stapled to corrugated containers with new-type Bostitch tacker "hold better than with tape at 1/10th the cost."



The Bostitch wire stitcher replaced wire strapping in boxing meat products. A famous packer reports "costs were cut by 50%."



"Twice as many boxes can be stapled in an hour, with only two thirds as much manpower." Staplers also take up less floor space.

HERE'S HOW TO CUT COSTS in your business; attach this coupon to your business letterhead and mail to us today.

BOSTITCH, Inc.
704 Mechanic Street, Westerly, R. I.

Your proposition interests me—show me how stapling can save money for our business.

I'm particularly interested in the following applications (please check):



HI-SPEED PRODUCTION FASTENING

- ☐ stapling vs. riveting
- ☐ stapling vs. spot welding
- ☐ stapling vs. screws or bolts
- ☐ stapling vs. glue or cement
- ☐ stapling vs. tape
- ☐ stapling vs. tacks or nails
- ☐ stapling vs. solder
- ☐ stapling vs. wire or string

PACKAGING AND CARDING

- ☐ sealing bags (cloth, paper or plastic)

- ☐ mounting products on display cards
- ☐ fastening items to individual cards

SHIPPING ROOM ECONOMIES

- ☐ preparing cartons for filling
- ☐ sealing filled cartons
- ☐ lining or padding crates
- ☐ applying shipping bills or tags

BUILDING APPLICATIONS

- ☐ applying asphalt roofing

- ☐ laying underfelt
- ☐ installing ceiling tile
- ☐ applying insulation
- ☐ installing low-voltage wiring
- ☐ applying shake shingle siding

OFFICE EFFICIENCIES

- ☐ filing
- ☐ routing
- ☐ posting
- ☐ binding folders and reports
- ☐ preparing advertising dummies

Fasten it better and faster with



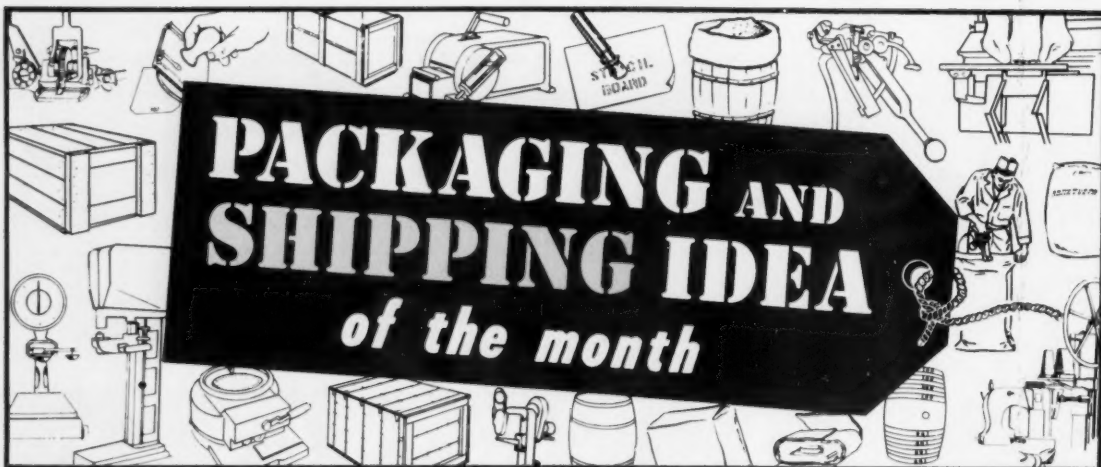
Name _____ Position _____

Company _____

Address _____

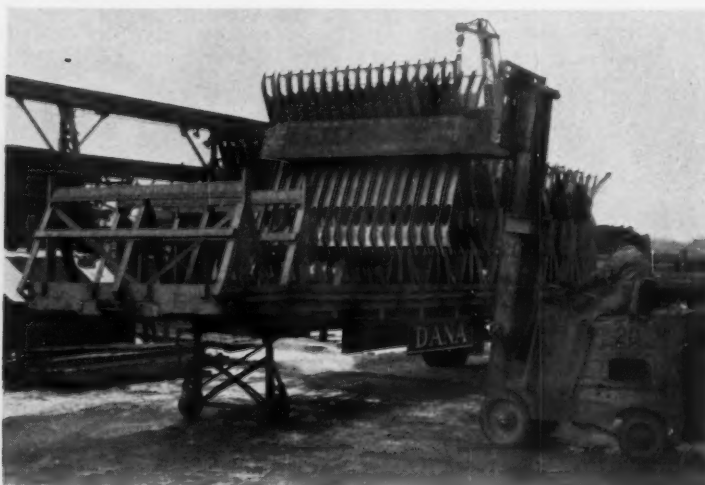
City _____ Zone _____ State _____

Circle No. 32 on Reader Service Card for more information



Shipping Method Cuts Handling

By HARRY G. SCHULTZ, Vice Pres. & Gen. Mgr.
Detroit Division, Dana Corporation
Detroit, Michigan



FORK TRUCK equipped with sleeve-type extensions loads 16 "X" member assemblies onto trailer outside assembly building of Dana Corp. As assemblies come off production line they are set on end in rows to pre-position them for lift truck. Truck picks them up and carries them directly to trailer for shipment to Ford assembly plant.

LOADED TRAILER (right) holds 176 "X" member assemblies ready to be transported to Ford Motor Co. At Ford, trailer is spotted alongside frame plant to be unloaded by fork truck equipped like the one at Dana. Fork truck moves assemblies into the production area, 16-at-a-time. Three trailers make up rolling equipment for system. While one trailer is being loaded at the Dana plant, one is being unloaded at Ford and another is in transit between the two plants.

AN unusual time and cost saving system for transporting the "X" member assemblies used to re-inforce passenger car convertible frames was worked out by the Detroit Division of Dana Corporation when it entered into an agreement with Ford Motor Company to fabricate these components.

Unwieldy in shape and weighing 115 pounds each, the "X" members previously had been shipped in railroad box cars. This method created a serious problem in loading and unloading. It required an excessive amount of labor because each unit had to be handled manually by two men.



Dana's problem was to load and ship them to the customer's plant at Dearborn, Mich., about four miles distant from their point of fabrication at Ecorse, another Detroit suburb. At Dearborn the "X" members are put into convertible frames manufactured by the motor car company itself. Their handling, therefore, was a mutual problem, for they had to be unloaded by manual means when they reached the assembly plant.

In surveying the problem, we decided the box car method was far too expensive and we advised our customer about the possibility of improving this operation.

Together, as we thought about and discussed the problem, we began leaning more and more toward shipping by truck. Then we began probing the exact ways and means by which the assemblies could be loaded onto a truck by a less costly and back-breaking means than was the case with box cars. After considering and discarding several proposed methods, we hit on a unique idea of using a fork lift truck to transport the assemblies from the production line, or storage area for loading on trailers.

With this system, the trailer could be equipped with stationery racks on which the assemblies could be nested. This would eliminate the need for chaining them down, and the units could be loaded crosswise on the truck. This was the method finally adopted.

Now, as the "X" member assemblies come off the finished assembly fixture, they are placed on end in rows. This pre-positions them so the fork lift truck can pick them up without delay when a movement is under way.

Once picked up in the assembly area, the fork lift loads them directly onto the trailer at a point close to the building where the "X" members are completed. By using sleeve-type extensions on the forks of the fork lift truck, it is possible for the operator to handle a whole row of 16 assemblies in each loading operation.

Design and fabrication of the fixtures for the transport trailer was accomplished in our own

(Continued on page 121)

"USS GERRARD STEEL STRAPPING and the Model TA Machine



...save us considerable
time and money,"
says A. G. Spalding & Bros.,
Los Angeles, Calif.

"and provide a secure, pilferproof
package every time."

This famous sporting goods manufacturer has been using USS GERRARD Steel Strapping for over six years to wrap shipments destined for all corners of the earth. They have found the GERRARD TA Machine to be speedy, simple, and easy to operate. And the packages, once tied with GERRARD Round Steel Strapping, remain tightly wrapped, rigid, and snug until they reach their destination.

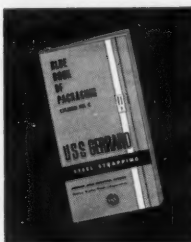
The Spalding Distributing Branch secures with GERRARD Steel Strapping all packages which weigh 75 pounds or less, and are to be shipped great distances. Formerly, string, cord or twine were used to reinforce the packages—hand-wrapped with several loops. The GERRARD Steel Strapping now in use has proved to be cheaper, 3 to 4 times faster, and tremendously stronger.

If you haven't investigated GERRARD Steel Strapping—Round or Flat—you should. And do it now. If you'd like help with your packaging-tying problem, our engineers would be happy to help you find the safest, most economical solution to it. Get in touch with us.

HOT OFF THE PRESS! NEW CATALOG...

36 pages of photographs, descriptions, facts
and figures on all USS GERRARD Steel Strapping
and associated equipment.

GERRARD STEEL STRAPPING DIVISION,
UNITED STATES STEEL CORPORATION
General Offices: Chicago, Illinois



Gerrard Steel Strapping
2937 West 47th Street
Chicago 32, Illinois

Please send me, free of charge, the new GERRARD Blue
Book of Packaging—Catalog No. 2.

Name
Company
Address
City State

USS GERRARD

STEEL STRAPPING

Round and Flat

UNITED STATES STEEL

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THE Snake Tape IDEA...



use 2 strips only!

CUTS LABOR 2/3 because you seal only the two center seams!

IT'S STRONGER because reinforced Snake Tape has strap-like strength. Strength you'll find in no other gummed tape because it's reinforced with rayon yarns . . . the same rayon yarns used in the best auto tires for superior shock absorbence.

PROVE TO YOURSELF, and at our expense, how much you can save in sealing time and in damage claims. Send for **FREE** sample of Angier Snake Tape now.

Free - 15 yd. sample



ANGIER CORPORATION
Framingham 13, Mass.

Circle No. 11 on Reader Service Card
116

How to Repair Multiwall Sacks

. . . with pressure-sensitive tape



TORN SACKS in pallet-loads are trouble makers. Spillage must be cleaned up, aisle will be blocked during removal, fork truck and operator may be tied up for excessive time and, if loading operations are in progress, they may be stopped.



PRESSURE SENSITIVE TAPE is applied to puncture to stop further leakage. Then, surrounding area is wiped with a damp cloth.

COMPLETE and permanent repair is made by applying additional tape after area dries. For larger tears, cross-hatch tape.

Courtesy Behr-Manning, Div. of Norton Co.

An accidental tear in a multiwall sack, as used in the bagging of feed, fertilizer, chemicals and all manner of powdered or pelletized materials, means trouble. When the torn sack is one of a neatly tiered pallet-load, its removal costs real money (with spillage to be cleaned up, an aisle blocked, time taken by a fork truck and operator, or possibly a costly halt in freight car or truck-loading.)

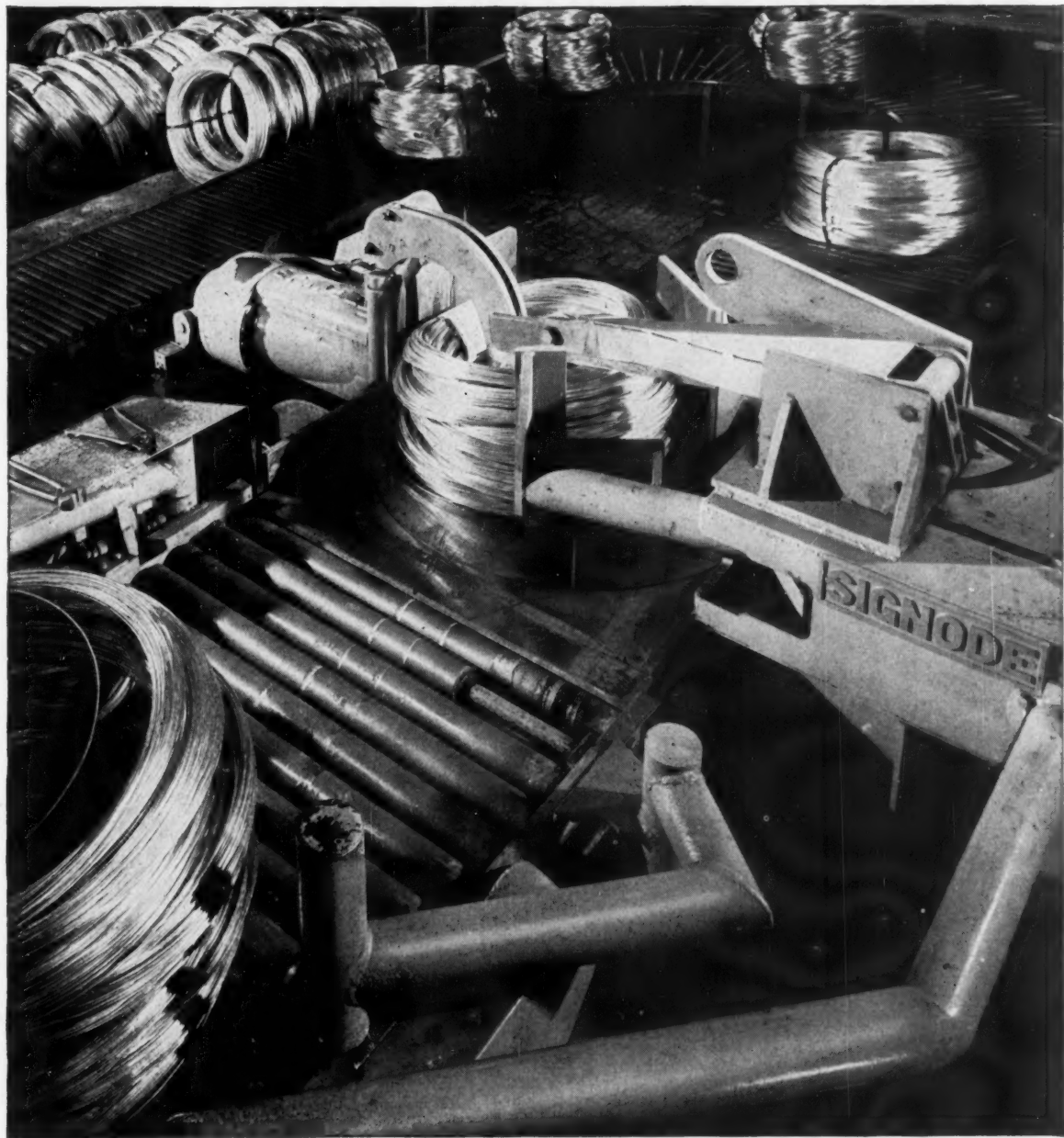
One remedy is to keep within easy reach a roll of strong pressure-sensitive tape to be used for making quick and lasting repairs.

The "Right" Way

Like many simple jobs, there is a right and wrong way to do this one. The first important point is to brush away the dust which will inevitably surround the break, then apply a tape patch directly over the tear to stop the flow of material from the bag. Next, clean the area with a damp (not wet) cloth and allow about 30 seconds for it to dry. Then apply a final piece of tape—or several pieces in a cross-hatch pattern if the tear is large—for a complete and permanent repair.



FLOW



Strapping can be automatic



This husky Signode machine compresses and straps wire coils automatically. It ties them so tightly that more wire is stored in less space, and coils don't snag or tangle. Other automatic Signode machines bundle pipe and strap packages of many shapes and sizes. For high strength at low cost, you can't beat steel strapping to hold things together or in place. Signode has ways to make your products cost less to handle, store, ship and receive—ways suitable for even the smallest plant. Let a Signode representative show you. No obligation. Just write:

SIGNODE STEEL STRAPPING CO.

2618 N. Western Avenue, Chicago 47, Illinois

Offices Coast to Coast. Foreign Subsidiaries and Distributors World-wide.

In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

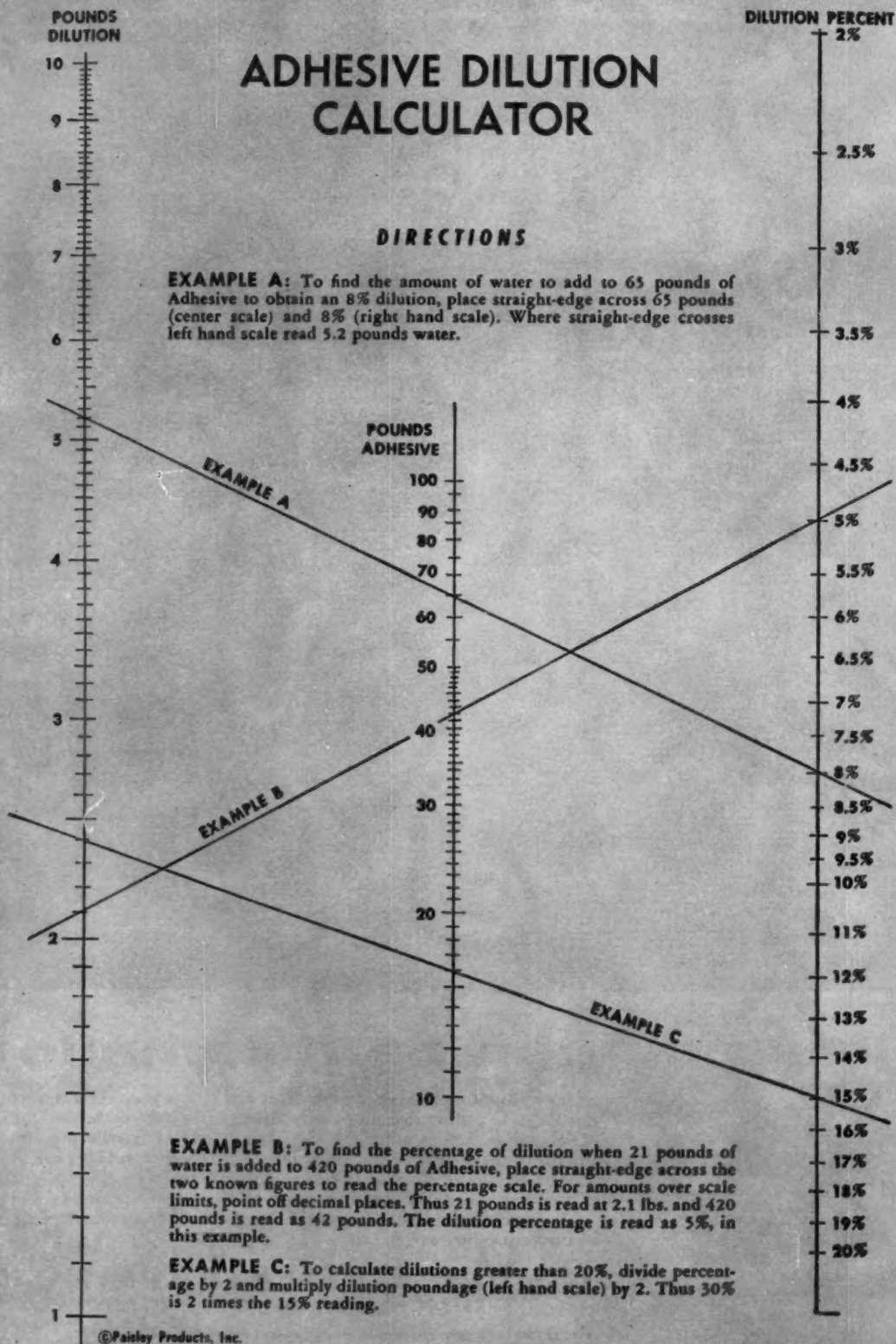
Circle No. 180 on Reader Service Card for more information

(Reprinted from 1956-57 FLOW DIRECTORY)

ADHESIVE DILUTION CALCULATOR

DIRECTIONS

EXAMPLE A: To find the amount of water to add to 65 pounds of Adhesive to obtain an 8% dilution, place straight-edge across 65 pounds (center scale) and 8% (right hand scale). Where straight-edge crosses left hand scale read 5.2 pounds water.



EXAMPLE B: To find the percentage of dilution when 21 pounds of water is added to 420 pounds of Adhesive, place straight-edge across the two known figures to read the percentage scale. For amounts over scale limits, point off decimal places. Thus 21 pounds is read at 2.1 lbs. and 420 pounds is read as 42 pounds. The dilution percentage is read as 5%, in this example.

EXAMPLE C: To calculate dilutions greater than 20%, divide percentage by 2 and multiply dilution poundage (left hand scale) by 2. Thus 30% is 2 times the 15% reading.

©Painley Products, Inc.



The nationally advertised Grip-A-Tab "90" Pressure Sensitive Cellophane Tape Dispenser. Delivers measured lengths in widths up to 1". Ideal for office or counter use.

from office

DERBY and GRIP-A-TAB

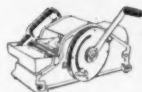
* JOB-DESIGNED TAPE DISPENSERS

to shipping room



The rugged Derby 32-T Gummed Tape Dispenser. A durable, easy-pulling Shipping Room model for fast, easy carton sealing with reinforced or Kraft tapes, gum in or gum out. Exclusive moisture control.

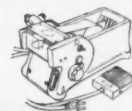
MODEL DL LABELERS—available in 2", 4½", 6½" and 9¾" widths.



MODEL 132—heavy duty gummed tape dispenser of a low, low price.



MODEL "400" PACKAGE SEALER—for narrow gummed tapes in pre-determined lengths.



MODEL KSE ELEC. TRIC ROLL LABEL DISPENSER—variable speed, foot switch operated.

Here are just a few of the more than fifty models in the versatile Derby and Grip-A-Tab lines of gummed and pressure sensitive tape dispensers. Simplicity of design makes every dispenser amazingly rugged . . . surprisingly easy to operate, even when used in a day-after-day production line schedule. Accurate length dispensing and long service make these fine dispensers economical to use. Mail coupon below for 7-Day Free Trial Offer.

* **JOB-DESIGNED . . . Every Derby and Grip-A-Tab Tape Dispenser is scientifically designed to perform specific sealing, wrapping, holding, palletizing or pre-packaging operations. There is a Derby or Grip-A-Tab Tape Dispenser to solve your packaging problems.**

DERBY SEALERS, INC. • DEPT. P • DERBY, CONNECTICUT

Gentlemen:

I would like a 7-Day Free Trial on Model _____ Tape Dispenser.

Please deliver to:

Name _____

Address _____

City _____ Zone _____ State _____

Please send literature on Models _____ dispenser (s).

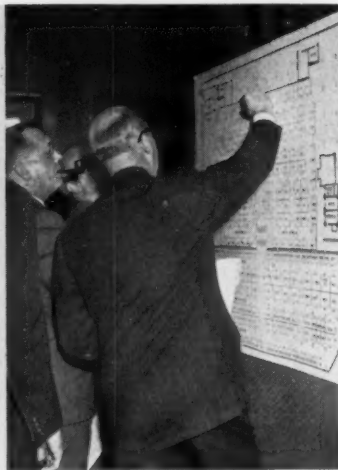
"IT PAYS TO STICK WITH DERBY"

DERBY SEALERS, INC. DERBY, CONNECTICUT

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New Packaging Machinery Show

... To Make Bow in September



REPRESENTATIVES of packaging machinery and packaging materials companies gather around floor plan of Cleveland Public Auditorium for selection of spaces for Packaging Machinery and Materials Exposition.

"Emphasis on packaging at the technical level," is the stated aim of a new show to be sponsored by the Packaging Machinery Manufacturers Institute. The show, to be called "The Packaging Machinery and Materials Exposition of 1956", will be held September 11 through 14 at Cleveland Public Auditorium.

According to W. J. Bronander, Jr., Scandia Mfg. Co. (a vice president of PMMI), more than 66 percent of the exhibit space had already been contracted for when exhibitor representatives met in Cleveland on January 31 for selection of space. "... The Exposition is well on its way to being a successful show", he declared.

STEN-C-LABL USERS Save time and costly shipping errors!

CASE No. 3

Electric Accounting Machine addresses **STEN-C-LABLS** continuously for multiple shipments



A time-saving addressing operation is used by the Foley Manufacturing Company of Minneapolis, Minnesota, in adapting the use of STEN-C-LABLS to their regular tabulating system.

After invoices are run from pre-punched cards, a continuous strip of STEN-C-LABLS are run with cards in the same sequence, picking up address section, purchase order number, invoice number and carrier.

After separation, the STEN-C-LABLS are tabbed to shipping copies of invoices and sent to shipping department where unlimited impressions are made with STEN-C-LABL applicator direct to PAUL-LABL on carton. A definite savings in time was accomplished plus elimination of addressing errors and mis-shipments.

Find out how your shipping costs can be reduced by the use of STEN-C-LABLS in your operation.

FREE brochure available on request. Write Dept. F-4

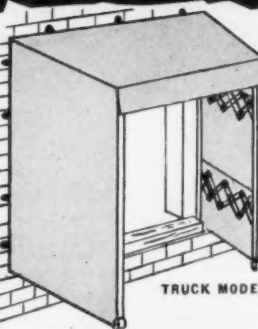
STEN-C-LABL, INC.

2285 UNIVERSITY AVENUE • ST. PAUL 14, MINNESOTA

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120

Tunnels for Safety

DAZZO DOCK SHELTERS



Provides a foldable tunnelled passageway between building door and truck or freight car door.

Protects your loading dock loaders and merchandise against rain, sleet, snow or driving winds.

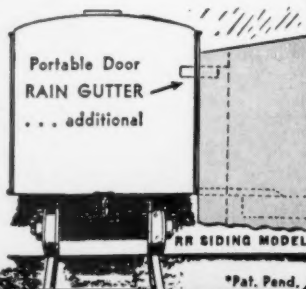
Eliminates accidents and loss of traction, due to wet and slippery conditions.

Protects against changes in temperatures when doors are opened for loading.

TRUCK MODEL

DAZZO PORTABLE FREIGHT CAR DOOR RAIN CUTTERS

Prevents rain or melting snow from sliding off car roof onto door opening ... thereby avoiding wet and slippery dock boards.



Portable Door RAIN GUTTER ... additional

Models for all types of cars

Write for literature... specify your requirements to Dept. F

RR SIDING MODEL

*Pat. Pend.

DAZZO PRODUCTS CO.
152 Bleeker Street • New York 12, N. Y.

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FLOW

SHIPPING METHOD CUTS HANDLING

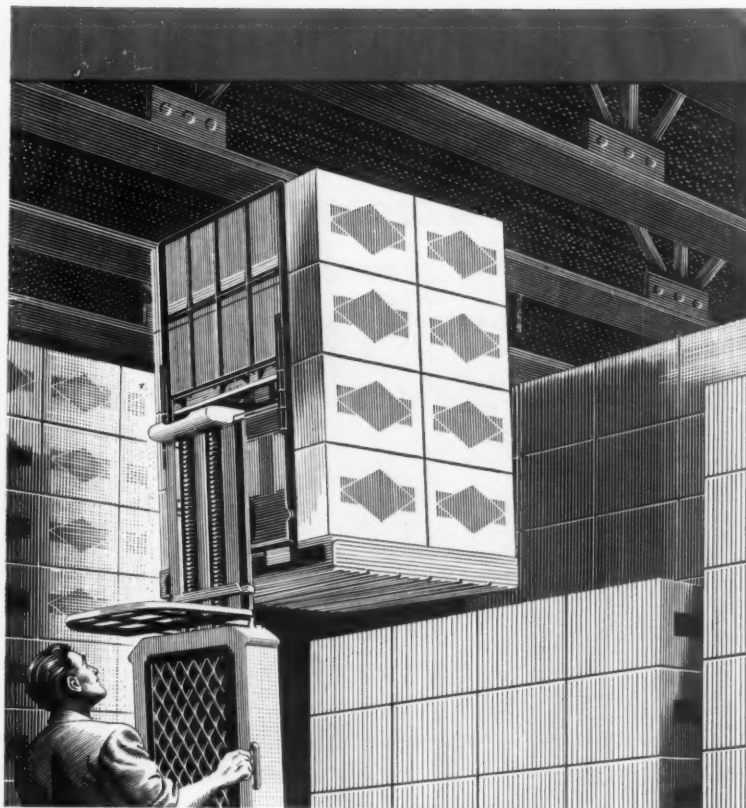
(Continued on page 115)

plant. Fixture is a standard rack on the trailers used. Extremely simple in design, it is bolted down to the trailer bed to make it a permanent part thereof. Each trailer has sufficient fixture capacity to hold 11 rows of the "X" member assemblies, or 176 units in all, with no tie-down necessary.

Savings realized were considerable and were passed on to the customer. The system greatly speeded up and simplified shipping, eliminated a fatiguing and relatively hazardous operation, and helped us no end in balancing shipments with customer usage, saving the latter storage.

Previously, when a box car loaded with "X" member assemblies arrived at the customer's freight yard, an engine had to be used to shift it to the receiving point. The box car then had to be unloaded manually, and the units trucked to the production area. Now it is only necessary to spot a trailer immediately alongside the frame plant, unload it by fork lift truck equipped identically with the one at our plant, and move the units into the production area, 16 at a time.

As one trailer is being loaded at our plant, another one is being unloaded at Ford. The third trailer in the group is at the same time in transit between the two plants. By this means we get full utilization of the trailers adopted.



MAKE USE OF YOUR AIR RIGHTS...



CORRUGATED AND SOLID FIBRE BOXES
FOLDING CARTONS • KRAFT PAPER AND SPECIALTIES
KRAFT BAGS AND SACKS

Open space under your warehouse roof may be clear profit... if you can utilize it by stacking boxes taller. But, before you do, be sure your boxes will stand straight and strong under the increased load. Gaylord containers have this valuable "stack-ability" because they are precision built of the finest quality materials.

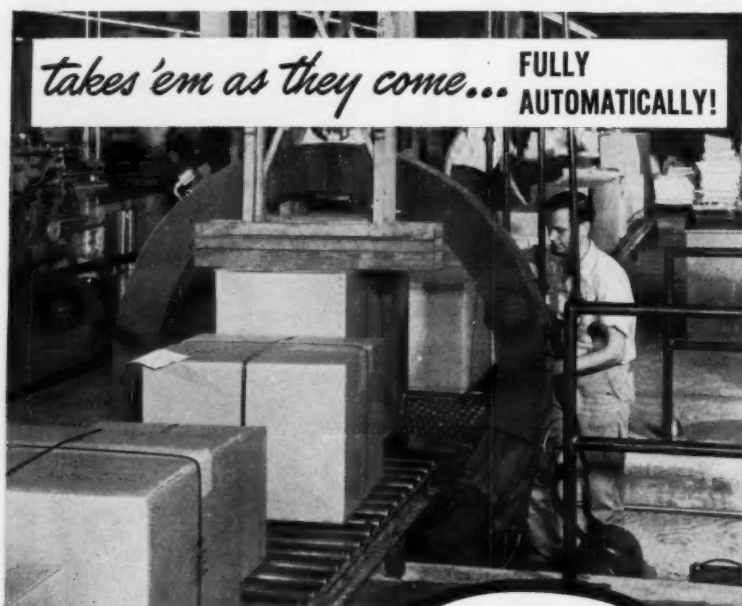
For information on containers to help you make full use of all your storage space, call your nearby Gaylord office.

GAYLORD CONTAINER CORPORATION • ST. LOUIS

DIVISION OF CROWN ZELLERBACH CORPORATION

Circle No. 85 on Reader Service Card for more information

AVOID SHIPPING BOTTLENECKS WITH AUTO-BAND STRAPPER*



Photograph courtesy of Utica & Mohawk Mills

takes 'em as they come... **FULLY
AUTOMATICALLY!**

- * ANY SIZE...
- * FAST...
- * FULLY AUTOMATICALLY



Breeze through volume and mixed size strapping bottlenecks with the AUTO-BAND fully automatic strapper. The tension, once selected, is automatically applied to any size package. The operator presses a lever (or button) to start strapping cycles, never touches the band itself. Heavy duty precision design and construction of the Auto-Band Strapper keeps maintenance to a minimum. Send for descriptive folder.

For Security in Shipping, look to

GENERAL STRAPPING CORP.
100 Park Ave.
New York 17, N. Y.

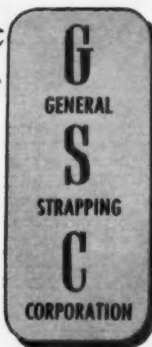
F-4

Please send me descriptive folder on the
AUTO-BAND Strapper. My peak load is approx. _____
packages per day. In _____ different sizes.
Maximum dimensions _____" wide, _____" high.

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____



METAL TUBES

(Continued from page 106)

ble container space with an ever-increasing amount of air while in use, it is conceivable that the amount of preservative normally required to keep the product in good condition could be reduced. Thus, many food products which could not hitherto be adequately protected in other types of containers could be reconsidered for merchandising in tubes.

Contamination by the Tube a Problem

Problems of product contamination by the metal tube itself, however, do exist and it is in this regard that the greatest emphasis has been placed in recent packaging tests. To date, some 300 food products produced by nationally known processors have been tested by a leading tube manufacturer in an effort to determine the kind of tube best suited for each product. Here it is important to point out that, while the foods tested may be separated into various general categories, each individual product represents a problem of its own. For example, while it can be stated that, in general, peanut butter can be successfully packaged and preserved in an aluminum tube, variations in the formulation of the peanut butter affect its compatibility.

Tests indicate that tin or aluminum tubes are the most satisfactory for the packaging of food products. Tin, however, is expensive, especially where tube sizes are large. Aluminum, then, appears to be the most effective and practical type of tube for the packaging of food products. In those instances where foods tested were found to be reactive to plain aluminum tubes, the use of internal coatings eliminated the problem.

Findings to date emphasize the "individuality" of each application. Plain aluminum tubes, for example, were found to be effective for most peanut butters and cake icings. On the other hand, while one brand of cheddar cheese proved incompatible with the several types of tubes and tube lin-

Another use for versatile, low-cost Continental fibre drums

Leverpak[®]

ROVING CANS

are built to take it

Constructed of laminated kraft and galvanized steel bands, Continental's Leverpaks resist ordinary wear and tear . . . withstand heat and humidity. Chemically-treated interior walls protect your product from contamination, too. For in-plant operations, you can be sure your product is safe in a low-cost Continental container.

Continental can help you with shipping or storage problems, too. We have fibre drums in regular light-weight sizes or we can design a special container for your specific needs. Check Fiberpak, Stapak, and Leverpak. They'll save money for you. Call us soon, won't you?

*Available in any size,
style or design*



**FOR TEXTILE
USE.** Inner Metal Rim
protects sliver from
abrasion.

**ALL METAL
OUTER BOTTOM**
protects contents from
grease and grime
on floors.

**STEEL
KICK BAND**
extends full six inches,
stands years of abuse.



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New York • Philadelphia • Pittsburgh • Tonawanda • Cleveland • Chicago

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Westinghouse uses .



STANLEY STEEL STRAPPING

to PROTECT Valuable Products

At the Westinghouse Electric Corp. plant, Turtle Creek, Pa. valuable close tolerance stampings, stacked on heavy steel plates, are securely "Uni-Tied" to the plates with Stanley Steel Strapping. Loaded on "buggies" coupled together to form a "train" the stampings are towed by tractor on a bumpy mile-long, intra-plant trip to the assembly point. Here, cables from an overhead crane are attached to the four corners of each plate to move the "Uni-Tied" stampings easily and speedily wherever desired.

Previously, the stacked stampings were not bound together. Cumbersome steel clamps affixed the plates to the "buggies." When a load (about 2100 lbs.) toppled — and this happens on occasion — the unsecured stampings were scattered, deformed . . . and rendered useless. The company suffered an expensive loss. Methods other than clamping were tried without success until the Stanley Steel Strapping Specialist suggested the present method.

Now, Stanley Steel Strapping assures easier handling and greater protection . . . which means an important reduction in costly product damage.

Stanley Steel Strapping can improve *your* materials handling methods, too! Get complete information by mailing in the coupon below to receive a free Catalog and arrange a visit from the Stanley Steel Strapping Specialist nearest you.



INSURE IT — SECURE IT WITH STANLEY STEEL STRAPPING

STEEL STRAPPING DIVISION

THE STANLEY WORKS

Stanley Steel Strapping Division, Dept. D, 593 Lake St., New Britain, Conn.

Telephone: BALdwin 9-2021

☐ Please send Catalog SS-9C.

☐ Please have Representative call.

NAME _____

POSITION _____

COMPANY _____

CO. ADDRESS _____

CITY _____

ZONE _____

STATE _____



Stanley Tools • Stanley Hardware • Stanley Electric Tools • Stanley Steel Strapping • Stanley Steel

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METAL TUBES

Continued

ings in which it was packed, another brand was effectively kept for extended periods of time at 38° F in tubes of vinyl coated aluminum, vinyl coated tin and araldite aluminum.

The need for refrigeration was notably apparent in several tests. Lard, readily packed in plain aluminum or tin tubes, should not be stored for excessive periods at room temperature. Most mayonnaises and salad dressings were found to require constant refrigeration. Leakage problems, in the case of certain brands of jellies and salad oils, indicate the need for special sealing of tubes at the crimp ends.

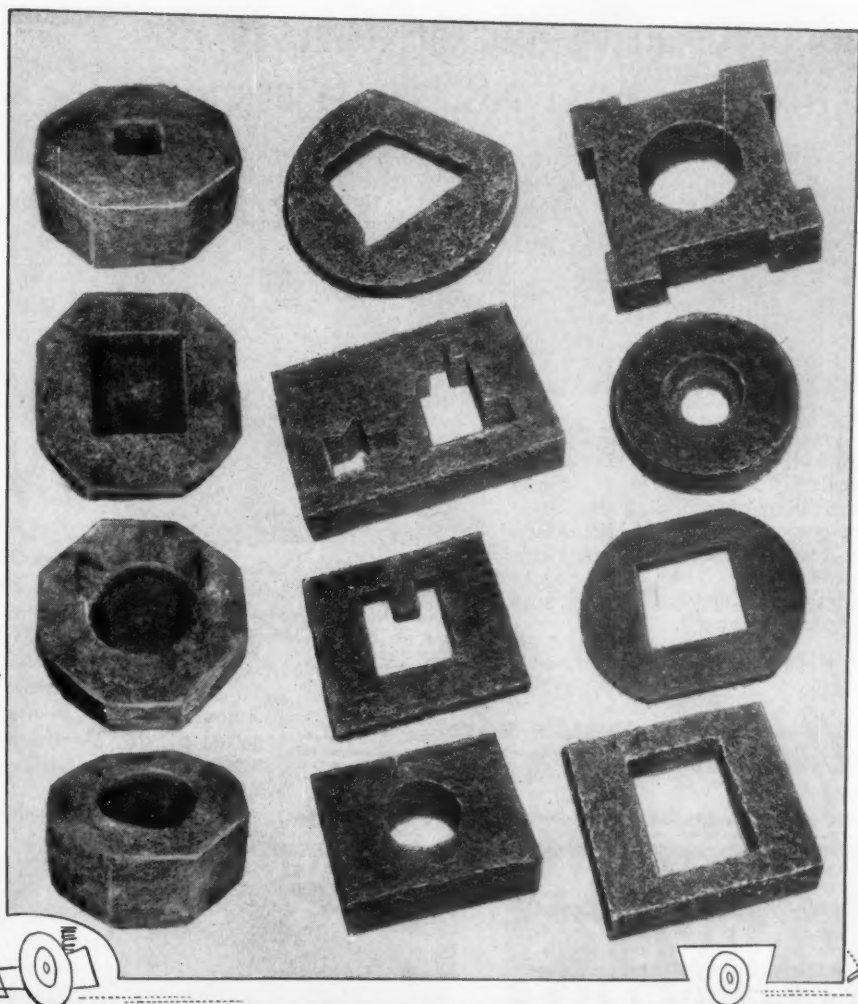
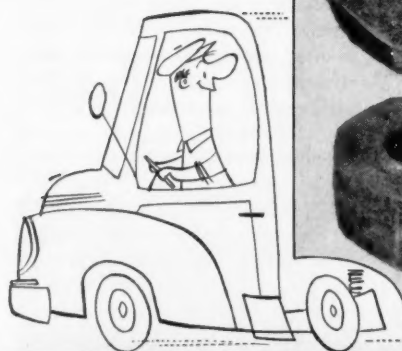
Analyze Tube Linings

Results of tests made to date have served to stimulate greater interest in continued research that is expected to resolve remaining technical problems. Major emphasis now is on analysis of the ingredients used in various tube lining compounds in an effort to develop one that will meet the broadest requirements for food products. Vinyl coatings have proved the most effective yet tested, but other compounds show even greater potential. A modified type of epoxy coating, for example, similar to that used extensively by European manufacturers of tubes for the food industry, is currently undergoing extensive study to improve its flexibility characteristics.

Data courtesy A. H. Wirz, Inc.



FLOW



Ship safely with

HAIRFLEX protection

Your product is safely on its way when it's shipped in HAIRFLEX. Springy curled hairs locked in latex rubber absorb even the hardest in-transit shock and vibration. No matter what shape your product is—square, round or irregular—it can be shipped in HAIRFLEX protection. You can order HAIRFLEX in sheets or rolls of various sizes, thicknesses and densities. Armour will also design a die-cut or custom-moulded pack specifically for your product.

ARMOUR

Curled Hair Division

Armour and Company • North Benton Road • Alliance, Ohio

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MAIL THIS COUPON TODAY!

Armour and Company, North Benton Road, Alliance, Ohio

- Please send me: ☐ A Free Sample of HAIRFLEX
☐ Booklet—"Packing For Maximum Protection"
☐ Pack specifications and cost estimate for my product (description enclosed).

Name _____

Firm _____

Address _____

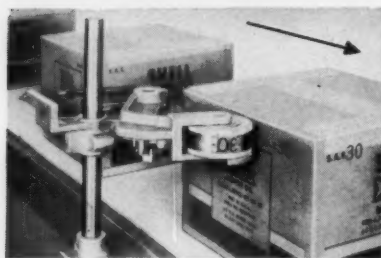
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APRIL, 1956

125

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Low-cost marking attachment pays for itself in weeks...saves thousands of \$ every year



▲ **ROLACODER** twin-action markers ...for imprinting codes and lot numbers on 2 or 4 sides of cases simultaneously ...without requiring cases to be turned.



▲ **ROLACODER** single-side marker for accurate spot imprinting of brand names, varieties, code-dates, lot numbers on cases, cartons, fibre drums, bags, etc.

Friction-driven **ROLACODER** markers do your marking automatically...save cost of manual stencilling or stamping. Designed for easy do-it-yourself installation on existing conveyor lines, case-sealers, etc. They use quick-change rubber type or dies, hold 8-hour ink supply.

Write for descriptive literature

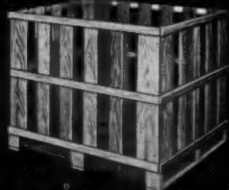
Gottsch

ADOLPH GOTTSCHO, INC.
Dept. D, Hillside 5, N. J.

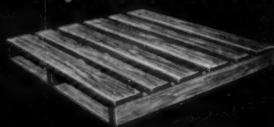
In Canada: **RICHARDSON AGENCIES, LTD.**, Toronto & Montreal

Automatic
CODING, MARKING,
IMPRINTING
MACHINES

BIGELOW GARVEY'S EXPENDABLES



- inexpensive pallet crate
 - shipped in two pieces
 - quickly assembled
 - made to your requirements
- HARD WOOD OR SOFT WOOD**
PALLETS
all styles and sizes



30 YEARS MATERIAL HANDLING EXPERIENCE

Write for complete details and prices to...
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Lumber Company
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126

CAPCO DOCK COVERS GIVE YEAR 'ROUND PROTECTION

CAPCO Dock Covers completely enclose the space between car and building doorways protecting loading and unloading during bad weather...preventing accidents...insuring against loss of heat or refrigeration. 51 different models in any size for every loading problem.



Write for literature and name of nearest distributor.

CAPCO

627-24 PROSPECT AVENUE • KANSAS CITY 24, MISSOURI

Circle No. 47 on Reader Service Card

ORDER HANDLING BOTTLENECK BROKEN

(Continued from page 109)

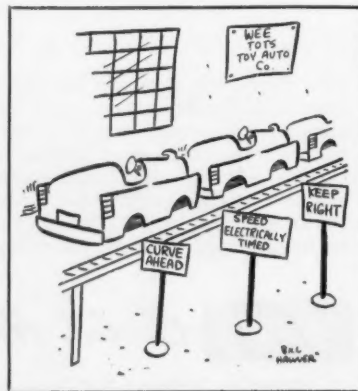
The dispatcher then routes each order, and the correct number of labels for the order, down the conveyor to any one of four tables manned by packers who apply the labels. This dispatching system also prevents overloading at any particular table. Each packer handles an average of 275 to 300 parcels daily.

System Responsible for Big Savings

The label system has been responsible for a speedup of better than 100 percent over the old system of hand stencilling each carton (and it is being done with 10 less men), indicating substantial savings. The new system is also credited with helping raise morale of shipping employees because the label's smearproof markings never rub or wash off.

The label machine gives the dispatcher complete control over label production. He runs off the exact number of labels needed, when he needs them. Appleton has found another use for the label machine... it produces the firm's product identification labels and packer identification labels which accompany each shipment. Those labels too are produced from a die-cut stencil.

FLOW'S thanks to Weber Label and Marking Systems, Div. of Weber Addressing Machine Co., Inc., for photographs and data used in the preceding article.



FLOW



USING LABELS?

This unique, table-top machine prints shipping and product identification labels and fills in the ship-to address or product information at the same time! Rate: 105 a minute. Cuts the labels to desired size too, faster than hand or machine addressing. Reduces errors. Easy to use. A practical answer to multiple label addressing or marking problems. Write for full details on the Weber Label Machine. Dept. 1-D.

Weber

marking systems

Division of Weber Addressing Machine Co., Inc.
Mount Prospect, Ill.

MARKING MADE EASY IN YOUR SHIPPING ROOM!

The ADvANCED Flo-Master Felt Tip Marker, with its interchangeable felt tips, makes marking on boxes, bags, cartons and crates a quick, simple job. The special spring valve permits finger-tip control of the ink flow. Instant-drying, waterproof, non-smudging Flo-master Inks help safeguard your shipments—addresses will not be smeared in transit.

For heavy-duty marking use the KING SIZE Flo-master with its larger felt tips and bigger ink supply.

The ADVANCED FLO-MASTER is new! In style and size like the finest fountain pen, the ADVANCED FLO-MASTER does everything the Original Flo-master does — uses the same inks — contains the same features — yet holds ½ more ink. It is the ultimate in a felt tip pen.

Contact your supplier or write direct to:
Cushman & Denison Mfg. Co.,
Dept. 1, 425 8th Ave., N. Y. 18, N. Y.

**ADVANCED
Flo-master
FELT TIP MARKER**

Visit us at Booth 1042—Nat'l Packaging Exposition

Circle 54 on Reader Service Card for more information
APRIL, 1956

**WATER
can't get in**

**Sealed
protection
for your
product**

**GREASE
can't get out**

GREEN CORE® BARRIER RAPS

For specification packaging . . . domestic and export . . . GREEN CORE CLOTH RAP

You say goodbye to packaging failures when you switch to this strong, easy-to-handle barrier material. Green Core Cloth Rap is flexible, strong, and quickly molds to exact shape of any object. The coating of micro-crystalline wax adheres and binds with minimum pressure, sealing out moisture, sealing in protective greases and oils. Green Core Cloth Rap fully conforms to Joint Army-Navy Specification JAN-B-121, Amendments 1 and 2. Users report years of use without one packaging failure.

For non-specification packaging . . . domestic and export . . . GREEN CORE RAP

This economically priced sheet is a greaseproof Barrier consisting of creped kraft backing laminated to a film of greaseproof cellophane. Use it to protect metal products in transit or storage when a specification sheet isn't required.

Green Core Rap is a greaseproof, moisture-resistant, self-sealing, extremely moldable sheet. It seals polished surfaces against rust and corrosion, guards sharp edges to prevent damage, guards against injury to personnel.

Write for samples and test data

LEADERS IN THEIR LINE

MID-STATES Gummed Paper Company
2511 S. DAMEN AVE., CHICAGO 8, ILLINOIS

New York • Syracuse • Philadelphia • Boston • Atlanta
Cleveland • Detroit • St. Louis • Los Angeles

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EFFICIENT PRODUCTION

with
**RACK
HYDRAULIC
UTILITY
TABLES**

PRICE
\$356.50

f.o.b. factory

132

One-piece 1/4" steel plate work top, which rotates 360 degrees . . . double speed hydraulic foot pump . . . and rugged roller bearing 6" casters . . . contribute to the performance records of this versatile table. Write for complete specifications.

Immediate Delivery from Stock

RACK

Engineering Company

131 SIXTH STREET
CONNELLSVILLE, PENNSYLVANIA
GARDENA, CAL. • FARNHAM, QUE. • LONDON, ENGLAND

FOR
**FAST,
SECURE,
LOW COST**
BAG CLOSING



FISCHBEIN
Portable
BAG CLOSER

- A truly portable bag closer . . . Weighs only 10½ pounds.
- Requires no installation . . . plug into any outlet.
- Handles textile and paper bags.
- Simple to operate and maintain.
- Lowest priced bag closer on the market.

FOR DETAILS,
MAIL THIS COUPON NOW
DAVE FISCHBEIN CO.

Dept. 48
2720—30th Ave. South,
Minneapolis 6, Minn.

Name.....

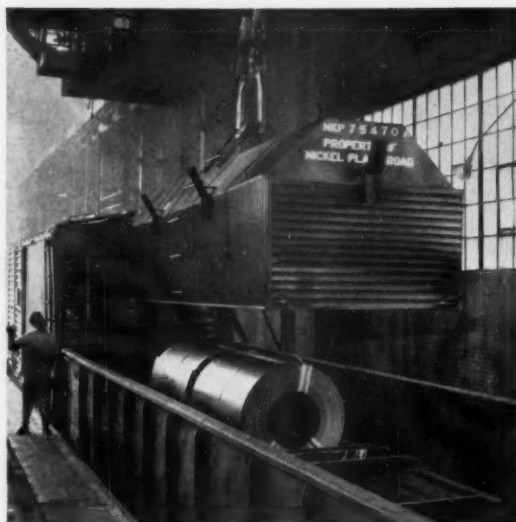
Firm Name.....

Address.....

City.....

State.....

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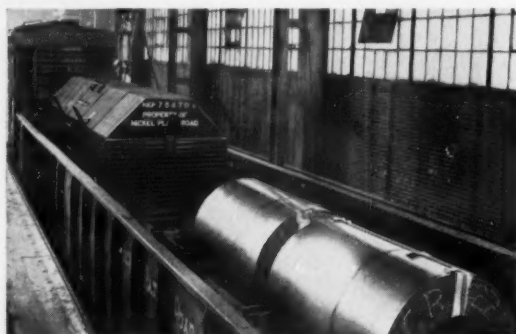


Steel Covers for Gondolas

SPECIALLY designed corrugated steel covers for gondola cars are simplifying freight handling for the Nickel Plate Railroad. They replace canvas tarpaulins for protecting carloads of steel from rain, snow and dirt.

Corrugated for extra strength, the covers do not require inner frameworks for support. Each cover measures 22' x 5'10" x 6'1/4" and two fit into one gondola car. They fit on floating skids which project 15 inches above the car floor and move along guides to help cushion out effects of longitudinal shocks.

A crane with self-releasing "C" hooks installs or removes the new covers in minutes. Cover-maintenance, formerly a serious problem, has been greatly reduced in importance.



INSTALLATION AND REMOVAL of corrugated steel covers is easy and swift. Tiering brackets on the covers permit them to be stacked one on top another alongside gondola car during loading or unloading operations.

Courtesy Pressed Steel Div., Republic Steel Corp.

FLOW

New Ackermann BAND-BOX

PATENT APPLIED FOR

**cuts freight costs
up to \$2 a trip!**

New Lightweight
Steel Shipping
Container Nests,
Stacks, Palletizes
without sacrificing
strength



*Open-top shipping, with
Stack Lock Corners, permits
the Band-Box to be
shipped at no cost.*

Freight saving is only part of the over-all economy possible with the Ackermann Band-Box. For, in addition to its light-weight and rugged all-steel construction, the Ackermann Band-Box cuts material handling costs many other ways.

For instance, it saves *labor* because it can be loaded at the last manufacturing operation—tagged and ready for immediate shipment or storage. It is completely

nestable and re-usable for more than 5 trips. *These savings alone more than pay for its original cost!* What's more, loaded Band-Boxes securely stack ceiling-high and are self palletizing for easy fork truck handling and more efficient storage.

All these distinct advantages make the Ackermann Band-Box ideal for inter-plant shipping and storage. Write, wire or call today for the complete savings story.

ACKERMANN MANUFACTURING COMPANY

WHEELING, WEST VIRGINIA



A COMPLETE STAMPING SERVICE!

From drawing board to finished product, Ackermann's complete stamping facilities include the ability, equipment and personnel ready to solve *any* stamping problem... ready to produce any product quickly, economically, efficiently. No job is too large, none too difficult. Write, wire or call for full details.

STEEL STAMPING DOES IT BETTER... ACKERMANN-WHEELING DOES IT BEST!

Circle No. 20 on Reader Service Card for more information

INDUSTRIAL TRUCKS

(Continued from page 61)

or five high. The trucks pick up the boxes, carry them to overhead feed hoppers and dump the castings. The trucks then take empty boxes to the discharge side of the machine.

These versatile trucks contribute to Grinnell's foundry operation in other ways, too. They stack the boxes for temporary storage between operations and carry filled boxes of rough-finished castings to the weighing station.

Use of Walkies

At the Love Brothers, Inc., foundry in Aurora, Illinois, three powered walkies haul prepared molds from the mold room to drying ovens for baking, and then back 100 feet to an assembly room where they will be closed and prepared for pouring.

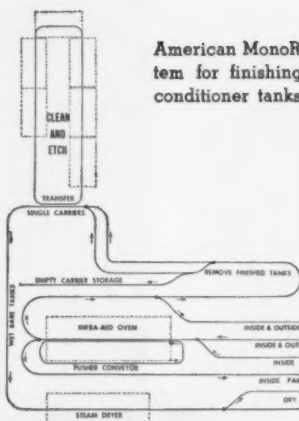
These trucks also haul core sand from the muller, where special sand is processed, to the core room located 200 feet away. Here, sand is baked and dried to form cores, which are then taken to the assembly room for fitting into molds and flasks.

These operations usually are done during the morning hours. In the afternoon, pouring of molten iron in the molds begins. The molten iron is poured from the cupola into a ladle which is transported by a walkie truck. Every seven minutes, the ladle is filled with 2500 pounds of molten iron, and the load is transferred 100 feet to the pouring area.

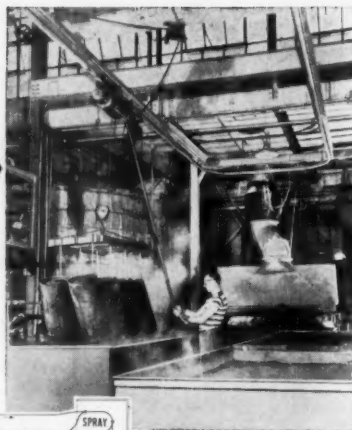
Two trucks are normally used for this operation: while one is in transit, the other is at the cupola. However, all three walkies are sometimes used in this operation to keep the pouring rate at the cupola constant.

After the molds are filled and the metal cooled, the castings are removed and placed on metal skids. These are hauled by walkie to a cleaning room. However, a number of castings first go to a shake-out, where core sand is shaken from the molds before the castings are sent to be cleaned.

These same trucks also are used to move flasks to shake-out. These



American MonoRail System for finishing water conditioner tanks.



Finished tanks from spray booths (rear) roll to pusher conveyor in foreground.



Costs are cut every step from cleaning and etching to finished tanks in this continuous operation by American MonoRail. For this manufacturer the up-and-over system of materials handling boosted production, improved space utilization, cut damages to material and improved both working conditions and production control.

If you have a materials handling problem, call your nearby American MonoRail engineer. He is qualified to help you solve it.

up and over

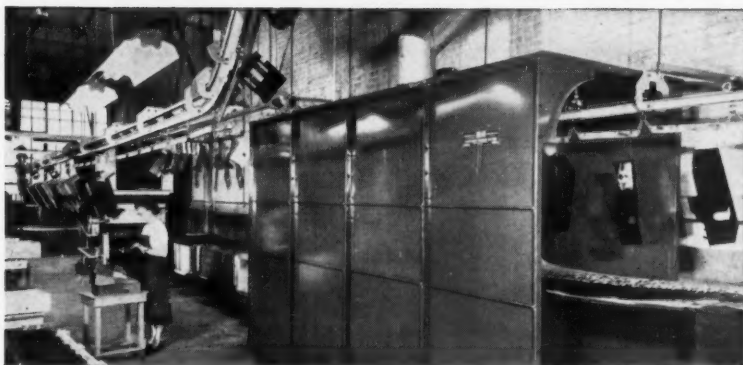
"Up-and-Over" is the title of our 16-mm. sound film to solve many tough handling problems at low cost. Please allow three weeks to schedule showing.



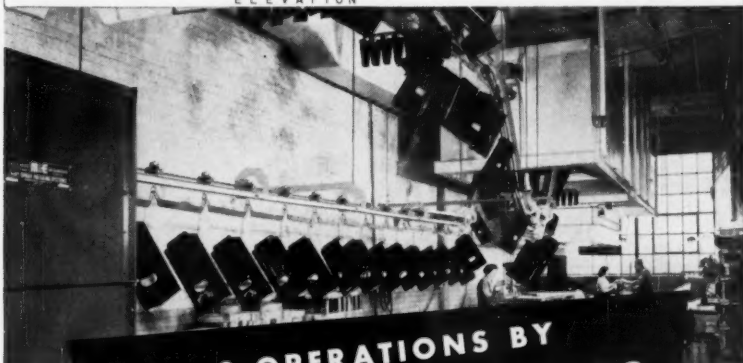
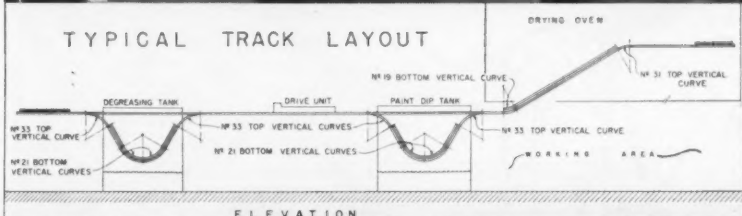
Member of Materials Handling Institute - MonoRail Association

AMERICAN MonoRail COMPANY

13129 ATHENS AVENUE • CLEVELAND 7, OHIO
Circle No. 6 on Reader Service Card for more information



TYPICAL TRACK LAYOUT

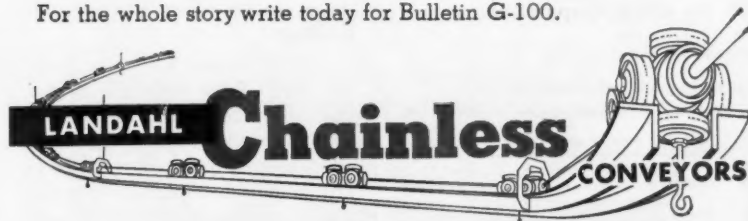


**3 OPERATIONS BY
LANDAHL CONVEYORS
IN LESS THAN 118 FEET**

Degreasing, finishing, and oven-drying of space heater parts are efficiently handled overhead in less than 118 feet of overall floor area by Landahl Chainless Conveyors. Hang-on type load bars, between trolleys permit extremely close spacing of small parts.

Landahl Conveyors have no chain to wear, no cable to sag, no sprockets needed. Landahl offers short radius turns, low cost maintenance, low initial cost, ball and socket universal joints, and caterpillar drive.

For the whole story write today for Bulletin G-100.



The LANDAHL CONVEYOR CO., 13129 Athens Ave., CLEVELAND 7, OHIO

A SUBSIDIARY OF THE AMERICAN MONORAIL COMPANY

Circle No. 7 on Reader Service Card for more information

APRIL, 1956

INDUSTRIAL TRUCKS

Continued

flasks weigh from 1200 to 8000 pounds. After the castings and flasks have been cleaned, they are then handled by fork trucks or cranes, while the walkies continue their work.

Incidentally, while these walkies have a rated capacity of 6000 pounds, Love Brothers designed a "semi-trailer" attachment which adds length to the trucks' platforms and, by distributing the load weight, permits them to handle heavier and longer loads without changing the power unit. And, they require only normal maintenance, despite the dirt, sand, soot and dust so common to foundry work.

Stockham Valves & Fittings, Inc., of Birmingham, Alabama, manufacturers of pipe fittings and valves, had to effectively and economically handle a wide variety of heavy, sometimes exceptionally hot, often irregularly-shaped materials. At one time, the company did most of its handling by wheelbarrow, which required severe physical effort and resulted in slow, tedious moves.

Today, the company uses 12 low-lift platform trucks which have reduced physical effort to a minimum and are largely responsible for maintaining a smooth, coordinated flow of castings.

Among the varied jobs performed by these trucks are: handling heavy iron pots holding castings into and from annealing ovens, transporting skid boxes of small castings to either galvanizing or tapping and moving skid loads of large flange fittings to inspection.

FLOW thanks the following companies for photographs and data: Automatic Transportation Company; The Baker-Raulang Company; Barrett-Cravens Company; Clark Equipment Company; The Elwell-Parker Electric Company; Hyster Company; Lamson Mobilift Corporation; Lewis-Shepard Products, Inc.; Market Forge Company; Towmotor Corporation; The Yale & Towne Mfg. Company.

Every demonstration proves the value of these 5 FEATURES of the NEW Ve-Be-Veyor



Feature 1. New "in the groove" design keeps belt running straight.

This eliminates belt wearing and fraying at the edges. No difficult and time-consuming adjustments.

Feature 2. Aluminum construction saves weight—makes it really portable. Channels are flanged for extra strength. 12 foot unit weighs only 149 pounds. Available also in 16 and 20 foot lengths.

Feature 3. No pulley adjustment needed. Take-up of belt as it stretches is as simple as shifting gears in your automobile. No tools or "know-how" required.

Feature 4. Handles heavy loads at inclines up to 30°. Users report the Ve-Be-Veyor will take loads heavier than its own weight, hour after hour, with no trouble.

Feature 5. Plugs in any lighting outlet. Can be used any place where you have a lighting outlet. No special wiring is required.

FIND OUT FOR YOURSELF . . . Send for Bulletin 600. Or better yet, ask us for a demonstration, without obligation, of course.

MAIL THIS COUPON

A. B. FARQUHAR DIVISION, The Oliver Corporation
Conveyor Dept. A-06, York, Penna.
Factory branch: 618 W. Elm St., Chicago 10, Ill.

- ☐ Send me Bulletin No. 600 about the Farquhar VE-BE-VEYOR.
☐ Please arrange for a demonstration of the new Farquhar VE-BE-VEYOR.



Name _____
Company _____
Street _____
City _____ State _____

POWER BELT AND GRAVITY CONVEYORS

Circle No. 76 on Reader Service Card for more information

CAN YOU MODERNIZE YARD OPERATIONS?

(Continued from page 71)

unloads cars of pig iron also, using the crane operator alone.

And, in between melts and unloading into the storage area, the crane makes quick runs into the machine shop. It loads out metal turnings from the shop to cars in a fraction of the time formerly required. It also runs the cars, eliminating the need for a switch engine.

Other equipment in foundry yards include tractor-shovels, which are employed by a number of foundries for handling jobs outdoors, as well as for indoor operations. They are used for a variety of work common to most foundries, including unloading sand from box cars, hauling small castings to cleaning, cleaning sand from pouring floors, hauling sand to core makers, hauling coke to storage areas and hauling scrap castings.

Smaller Equipment

Most of the equipment discussed up to this point has been of the heavy-duty variety. However, not all yard handling machines are of this type. For example, at Dodge Steel Company in Philadelphia, a major handling job is moving the sand, cereal binders and melting scrap used in their operations—and it's done with powered wheelbarrows.

Keeping the foundry bins supplied with sand and cereal binders formerly required 24 manhours a day. With a powered wheelbarrow, the job is done in 16 hours. The binder is stored at the opposite side of a paved yard, and the barrow runs at top speed at all times, except when entering the building.

Another barrow hauls steel melting scrap from the yard to the charging platforms of the electric furnaces, and it reduced this operation to half the manhours formerly required. Furthermore, scrap stored in piles on the paved yard is handled only once because the loaded barrow can be driven through the foundry and the load

BARRETT

It's
New....



It's new
It's electronic
It's automatic

write for
free catalog

GUIDE-O-MATIC SYSTEM



The Guide-O-Matic tractor is *completely* automatic... requires no operator—no physical connectors. Overhead guide wire controls movement along predetermined routes at any desired speed—down aisles, into stock rooms, wherever material is to be loaded or discharged. Guide-O-Matic is always under the

constant control of signal boxes installed throughout your plant. A time and labor-saver for handling packaged goods, machined parts, containers, lumber—order picking.

Let a Barrett engineer develop a Guide-O-Matic route to suit your needs. The coupon will bring full details, promptly.



BARRETT-CRAVENS COMPANY
614 Dundee Road • Northbrook, Illinois
Representatives in all principal cities
Canadian Licensee: S. A. Armstrong, Ltd., Toronto, Canada

GUIDE-O-MATIC DOES MORE... AUTOMATICALLY

BARRETT

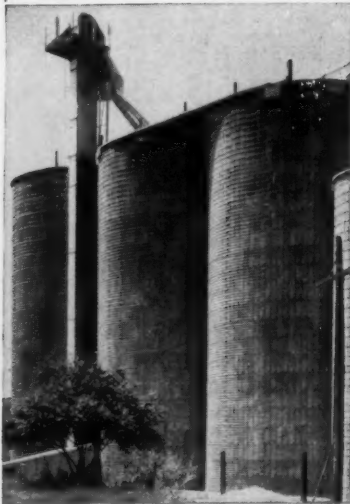
ONE MAN DOES MORE THAN 3 OR 4... WITH A BARRETT

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BARRETT-CRAVENS COMPANY
614 Dundee Road, Northbrook, Illinois
Send my copy of the Barrett Guide-O-Matic catalog No. 552-1.

Name.....Title.....
Company.....
Address.....
City.....Zone.....State.....

Big Stocks of Glass Materials in 9 NEFF & FRY Bins



Barytes, cullet, feldspar, limestone, salt cake, silica sand, slag, soda ash—these are the materials handled and stored in Neff & Fry Bins at Foster-Forbes Glass Co., Marion, Ind. Four of the nine bins are shown in the photograph.

It would take this entire space to list all of the flowable bulk materials for which our bins are used. In many cases, considerable ingenuity is required to meet the loading and unloading situations. That's when our engineering knowledge plays an important part.

Chances are you'd select our bins for your bulk materials if you knew all the reasons. Ask for our folder, "Bins With the Strength of Pillars."

*Not exported except to
Canada and Mexico*

THE NEFF & FRY CO. • 110 Elm St. • Camden, Ohio

NEFF & FRY **SUPER-CONCRETE STAVE
STORAGE BINS**

CAN YOU MODERNIZE YARD OPERATIONS?

Continued

dumped directly on the charging platform.

A third barrow hauls maintenance items and supplements the other two units during rush periods.

Other foundries have found a variety of uses for these versatile units. They are used to handle sand, coke, castings and many other materials in foundries which find it impractical to employ larger equipment.

FLOW thanks the following companies for photographs and data: Baldwin-Lima-Hamilton Corporation; Bucyrus-Erie Company; Coles Cranes, Inc.; Jaeger Machine Company; Link-Belt Speeder Corporation; Prime-Mover Company; Schield Bantam Company; Silent Hoist & Crane Co., Inc.; Thew Shovel Company; Toledo Scale Company; Tractomotive Corporation; Unit Crane & Shovel Corporation; Whiting Corporation.

"PALITON"

**One Large Capacity—
4,600 lb.—at the
Same Low Price**



**Fork Lengths 36"-42"-48"
Widths 20½" and 27"
Specials to Order.**



**Threeway Control for
Raise, Lower and
NEUTRAL Giving FREE
HANDLE for Towing.**



**STOCKS AND SPARES
HELD BY ALL OFFICES**

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*has Every
Modern Feature*



The Paliton Hand Pallet Truck
With Five Inch Hydraulic Lift.

**WRITE FOR
ILLUSTRATED
LITERATURE**

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There's a speedy dependable

ARO

PRODUCTION AIR HOIST *to fit your job!*

**2,000 lb.
1,500 lb.
1,000 lb.
500 lb.
300 lb.
100 lb.**

VARIABLE SPEED . . . 1000 lbs., 0 to 38' per minute . . . 2000 lbs., 0 to 20' per minute . . . load can be inched or zipped.

AIR-POWERED FOR SAFETY . . . no spark hazard . . . explosion-proof motor . . . can't burn out . . . can't overheat . . . unaffected by dust or fumes.

LIGHTWEIGHT . . . only 28½ lbs. for 1000 lb. hoist . . . 2000 lb. hoist weighs only 47 lbs. Overall length all models, 10½" to 11½".

TRY THIS WITH ANY OTHER HOIST!

You can inch so slowly that you can touch an egg without breaking it!



ARO

AIR HOIST

Also . . . Air Tools . . . Lubricating Equipment . . .
Aircraft Products . . . Grease Fittings

**SEE YOUR ARO DISTRIBUTOR
THE ARO EQUIPMENT CORPORATION**

Bryan and Cleveland, Ohio

Aro Equipment of California, Los Angeles, Calif.
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LEVER PENDENT CONTROL (illus.)

Also Push-Button or Cable Control

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APRIL, 1956

135

You name it . . . **DEXION** will frame it



DIE RACK



STACKING JIG



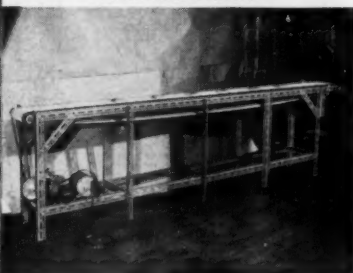
BAR STOCK RACK



SHELVING



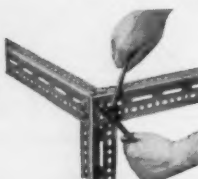
WORK TABLE



CONVEYOR

Easy to cut! Simple to connect! Reusable!
. . . it's the perfect low-cost framing material!

DEXION Slotted Angle is easy to assemble. You can build any frame in minutes. This galvanized steel angle is strong and rigid . . . lasts indefinitely. No drilling or welding. No waste. Easily dismantled, DEXION can be reused to build any other frame. Only your imagination limits its use. DEXION is the perfect, low-cost framing material.



Simple to connect.
No special parts or fittings are needed.



Easy to cut. One down-stroke of the DEXION cutter cuts square, accurate and clean.



DEXION panels. Use for shelving to support heavy loads. Heavy duty casters are also available.

DEXION Slotted Angle is a packaged product, ten pieces to a package. It's easy to store, occupies approximately one cubic foot of space. There are two sizes: 3" x 1 1/2" x .104" and 2 1/4" x 1 1/2" x .080" in ten and twelve foot lengths.

Here are a few of the many ways DEXION is being used

- Die Storage Racks
- Assembly Tables
- Catwalks
- Gravity Feed Storage
- Shelving
- Warehousing Racks
- Machinery Mount & Guard
- Work Bench
- Pipe Line Hangers
- Control Box Mountings
- Bulk Storage Bins
- Bar Stock Racks
- Mezzanine
- Tire Storage Racks
- Conveyor Framework
- Carts
- Vertical Sheet Storage
- Cable Rack
- Cutting Tables
- Conduit Hangers
- Platforms
- Pallet Racks



Write to Dept. 4-B today for free DEXION folder. Or write the DEXION Division, Acme Steel Company, 2840 Archer Avenue, Chicago 8, Illinois for the name of your nearest DEXION office or distributor.

DEXION SLOTTED ANGLE

**ACME
STEEL**

Circle No. 2 on Reader Service Card for more information

SALES

(Continued from page 26)



E. J. Hansen



W. S. Alger

Automatic Transportation Co., through General Manager Roy L. Wolter, has named Edward J. Hansen to the newly created post, Supervisor of Publicity, and appointed Whitney S. Alger, of Natchez, Miss., Application Engineer for South Central States. Formerly a field reporter for the American Automobile Association and assistant advertising and sales promotion manager of the A. B. Dick Co., Hansen will be responsible for Automatic's publicity program under the direction of advertising manager Bernard M. Kewin. Alger, who will provide liaison between the Chicago factory and franchise representatives in Ark., La., Miss., Okla., and Texas, entered the material handling field in '39, formerly was a field engineer for William H. Ziegler Co., Inc., distributors of material handling equipment in Minneapolis.



C. P. Whiteley Also announced by General Manager Wolter was the appointment of C. P. Whiteley as regional application engineer in a 7-state area including North and South Carolina, Tennessee, Georgia, Alabama, Florida and the western area of Virginia. He has had 28 years of experience in material handling, including four years as a consultant and advisor to the Navy's Bureau of Ships.

His office will be at 9820 S.W. 62nd Ct., So. Miami, Fla.

New dealers in California and Virginia have been designated by Clark Equipment Company. Lifton, Inc., 10521 Pearmain St., Oakland, Calif., will cover the California counties of Lake, Sonoma, Napa, Marin, Alameda, Contra Costa, San Francisco, and the portion of Solano next to Vallejo and

Benecia. W. G. Codman is president and general manager of Lifton; E. G. Hartsinck is vice president and sales manager. With headquarters on South Military Highway, Norfolk, Va., West Industrial Equipment, Inc., will have a territory comprising the Virginia counties of Norfolk, Princess Anne, Nansemond, Isle of Wight, Southhampton, Surray, Warwick, Elizabeth City, York and James City, as well as the

NEW WALKIE powered lift truck offered in many models

Walkie-Worklifter now features 1000 lb. and 1500 lb. capacities, with lifts up to 120".

Every plant, small or large, has drums or crates or pallets or skids that can be moved and stacked more efficiently with one of these Walkie-Worklifters.

Such varied industries as steel, rubber, glass, textiles, plastics, paper, meat and bread use the Walkie-Worklifter to reduce costs and to eliminate lost time in departmental

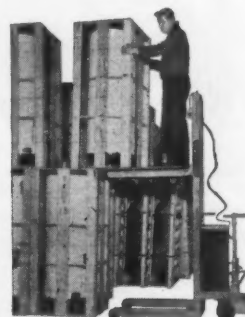
materials handling. Letters from satisfied users report savings of 50% or more in specific materials handling operations.

All models are priced low and include batteries and built-in charging unit. Get the full story on Walkie-Worklifters. Write today on your letterhead, outlining your requirements. Or, for your future reference, ask for bulletin No. W555.

ECONOMY ENGINEERING COMPANY (Established 1901) 4524 W. Lake St., Chicago 24, Ill.



Straddle base Walkie stacking photographic equipment.



Extension cord control enables operator to ride up with the load.



Effortless moving of 1000 lb. load →

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SALES

Continued

North Carolina counties of Currituck, Camden, Pasquotank, Perquimans, Chowan, Gates, Hertford, Northampton, Bertie and Halifax. **H. W. "Pete" West** is president, **Thomas J. Ficarra**, secretary-treasurer of the firm.

Robert R. Warns has been named supervisor of the Los Angeles district office of the **Dexion Division of Acme Steel Company**, according to **P. L. Dafoe**, manager of the division. Warns joined Dexion in October, 1945, as a sales-



R. R. Warns

man in the New York City area, was subsequently made a special representative and remained in that position until he was appointed to the Los Angeles area early in '56. He is a former flying instructor with the Marine Corps.

Mr. Dafoe has also named **J. Robert Sansom** manager of distributor sales for the Dexion Division. Former distributor salesman for the Carbology Dept. of General Electric Co., Sansom joined the Division last June and will be responsible for the establishment of a national network of industrial distributors.

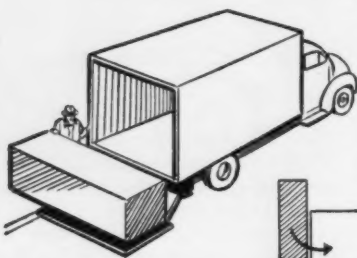


J. R. Sansom

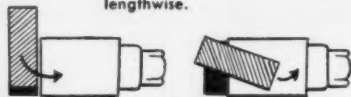
The new manager in the Buffalo Zone for **Otis Elevator Company** is **Watson O. Powell**, who succeeds the recently retired **Austin L. Kimbell**, a 44-year veteran with Otis. Powell himself is a veteran in the organization, having joined the firm in 1923 as a student trainee and served in numerous areas and various sales capacity prior to this appointment.

Three distributor appointments have recently been made by **Baldwin-Lima-Hamilton Corporation, Construction Equipment Div. Mineco, Incorporated**, Box 822, Bartow, Fla., will serve the central area of Florida. **Southern Equipment Sales, Inc.**, 980 S. State St., P. O. Box 1787, Jackson 5, Miss., has the southern half of the state of Mississippi. **Hall-Perry Machinery Company**, with offices in Butte, Billings, and Great Falls, will cover the entire state of Montana with the exception of Lincoln, Mineral and Sanders counties.

Here's trucking **AUTOMATION** that lets you combat High Cost Hauling

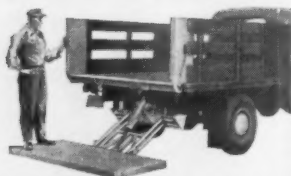


Cost saving way to handle extremely long objects such as display cases, frozen food cases, furnaces, air-conditioning units, machine tools, bathtubs, tanks, etc. Skid object on gate leaving one end extending beyond edge of gate. Flush end of object is first swung into body, and then entire object is skidded into body lengthwise.

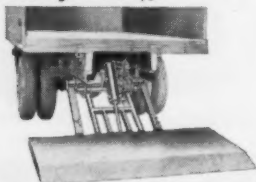


ANTHONY LIFT GATES

FOR 3/4 TON and Larger Trucks and Semi-Trailers



Model No. 144 handles loads up to 1000 lbs. Cuts loading and unloading time 50%.



Model No. 145 handles up to 2000 lbs. on 1 1/2-Ton and larger trucks and semi-trailers.

Model No. 146 handles up to 4000 lbs. on heavy trucks and semi-trailers.

If high freight rates and costly delivery services are cutting a swath out of your profit picture, here are five ways you can offset them.

1. Speed up deliveries.
2. Develop faster, easier ways of loading and unloading trucks.
3. Systematize handling of bulky, awkward, heavy shipments.
4. Prevent damage to goods, yet make it easier and safer for drivers to handle most shipments alone.
5. Help drivers contribute to the satisfaction of the receiver.

All of these advantages are yours when you install Lift Gates on your trucks. We will be glad to recommend the systems, the size and type of Gate best suited for your work.

Write, wire or call us today—no obligation. One of our representatives is nearby. Dept. 5605.



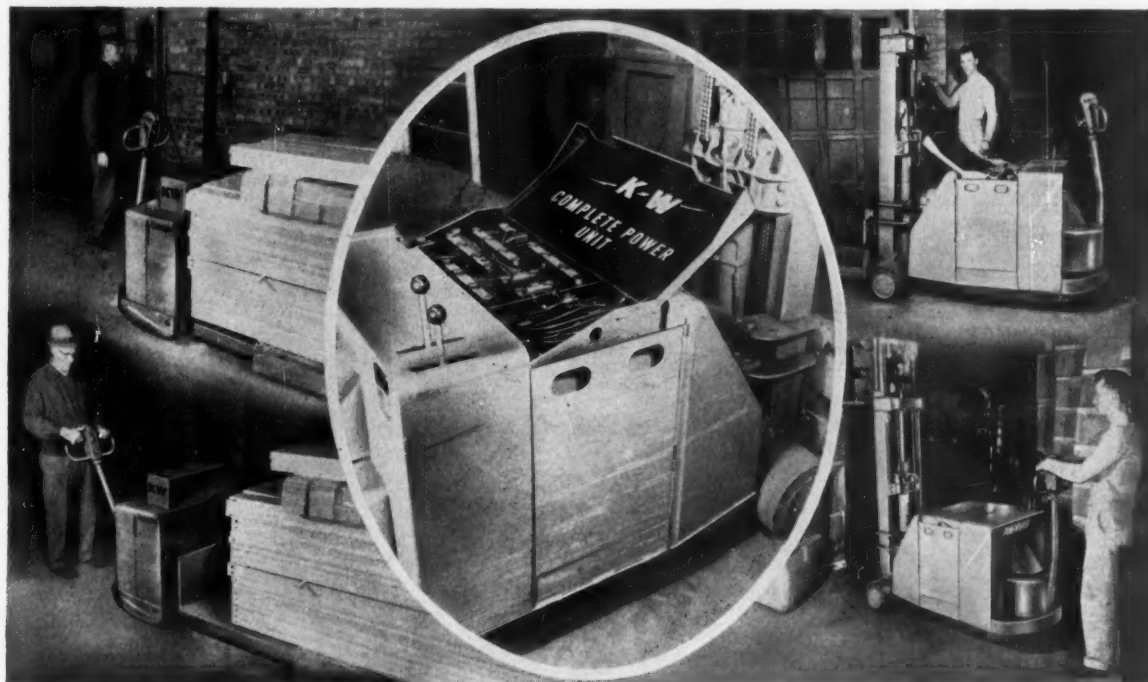
ANTHONY COMPANY
Streator, Illinois

Circle No. 12 on Reader Service Card for more information

new **K-W** COMPLETE POWER UNIT

Makes "Walkie" Trucks Right for You

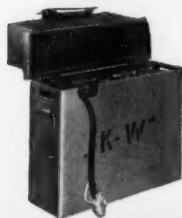
- Charge it anywhere
- Cuts maintenance time and cost
- No moving parts
- Save space—no special charging area needed



There's no need to tie up valuable floor space for battery charging when you use KW Complete Power Units on your "Walkie" type trucks. Simply plug unit (battery with permanently mounted charger) into any 110-120 V. 60 cycle outlet anywhere . . . at any time truck is not in operation . . . for a booster charge, or full charge . . . without removing battery from truck!

The KW Complete Power Unit is automatic and foolproof in operation. There are no moving parts, no relays, no contactors, no timers to set or get out of adjustment. This permits the KW Complete Power Unit to withstand severest service conditions.

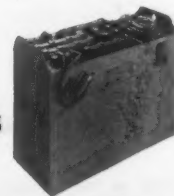
Rate of charge is automatically controlled, thus insuring positive protection to battery. Complete recharge overnight. Change now to KW Complete Power Units and see the difference!



SPECIFY this NEW KW Complete Power Unit on your next truck

KW Batteries for all industrial applications

Write for descriptive literature



K-W BATTERY COMPANY

SKOKIE, ILLINOIS

BROOKLYN, NEW YORK

Circle No. 120 on Reader Service Card for more information

SALES

Continued

Numerous appointments have been made recently by the Materials Handling Division of Yale & Towne Manufacturing Co. Theodore J. Simendinger has become



Theodore J. Simendinger

hoist district sales manager for Eastern Penna.; Southern N. J.; Dela.; Md.; and Washington, D. C. His office is in Philadelphia. William H. McManus has been named a sales representative in the territory. Otto F. Bender is the new manager in charge of hoist sales in the Cleveland-Akron area,



Otto F. Bender

replacing Fred E. Rau, who becomes assistant hoisting equipment sales manager of Yale. Benders office is in Cleveland. Robert L. Brown has been made assistant manager of gas, diesel and LP-Gas industrial lift truck sales of the Yale Materials Handling Division.

Also from Yale & Towne comes word of the establishment of the Fabricating Division of Kaiser Steel Company, Montebello, Calif., as West Coast sales and service depot for Yale electric hoists. Paul R. Minich, Jr., General Sales Manager of Yale's Material Handling Division, has pointed out that the increasing industrial importance and growth of the West Coast area necessitated establishment of the depot to provide Yale industrial supply distributors, crane and monorail builders with a readily available stock of electric hoisting equipment.

SAVE TIME & MONEY ON YOUR LOADING DOCK...

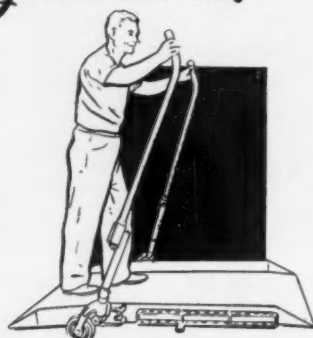
with the new ROLLWAY PORTABLE STEEL DOCK PLATE *One man easily moves it!*

Patents applied for



ROLL IT
INTO
PLACE

One man easily handles the ROLLWAY like a two-wheeled warehouse truck—even the sizes that weigh more than 500 lbs.



MOVE HANDLES FORWARD AND DOWN...

As the handles are moved forward and down, the wheels automatically move off the floor letting the ROLLWAY down into position for use. No fingers need be under edges to be injured. On models with folding wheels the wheels also automatically fold to a flat position below the tops of the side rails. The handles can be telescoped completely out of the way.



READY FOR USE...

To remove the ROLLWAY after use, one man simply moves the handles up and back which automatically raises the plate and moves the wheels back into position for easy rolling.

Step up the efficiency of your materials handling operation right away. Write for complete information and prices on the various standard models of the NEW ROLLWAY PORTABLE STEEL DOCK PLATE!

**SOME TERRITORIES
OPEN FOR
REPRESENTATIVES.**

WOODFORD MFG CO

1629 DELAWARE AVE.

DES MOINES, IOWA

Circle No. 209 on Reader Service Card for more information



Robert Means



Roy L. Smith

Roy L. Smith and Robert Means have been appointed to the West Coast sales force of American Sisalkraft Corp. Smith is to cover Central California, Nye and Esmeralda Counties in Nevada. Mean's territory will be Wyoming, Colorado, Utah and So. Idaho.

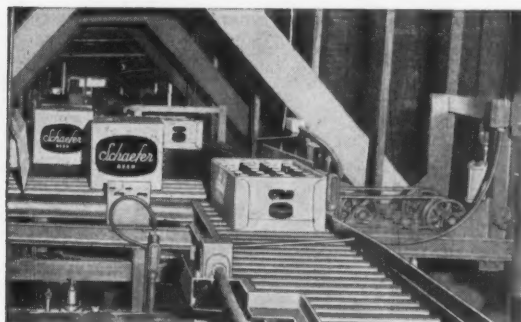
Inter-Ocean Export Associates, Kenilworth, Ill., have been appointed exclusive export agent for the John Morrell Manufacturing Co.



A Lamson roller gravity, live roll and belt conveying system automatically sorts kegs and cartons from boxes at Russell, Burdsall & Ward Bolt and Nut Co., Port Chester, N. Y. Thanks to the Lamson system, shipping department output now keeps pace with a bigger increase in volume of orders.



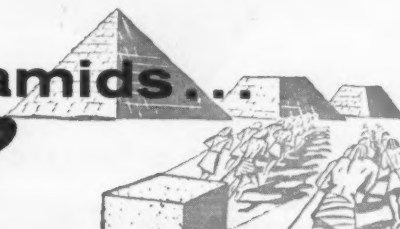
Order filling capacity has increased 30% since the Philadelphia Wholesale Drug Co. installed its Lamson integrated belt, gravity and live roll conveying system.



Two different sizes of cases are automatically sorted by this Lamson unit at The F & M Schaefer Brewing Co., Brooklyn, N. Y. As cases are conveyed to the sorting switch, low cases pass under and through. High cases strike an arm which raises a series of V-belts, transferring the cases laterally to the parallel accumulator line at the left.

Do you fill orders like Pharaohs built the pyramids...

BY HAND?



Pushing, pulling and hauling your products is a needless waste of time and energy and money in this mechanized age. That's why so many plants and warehouses today are *Lamsonized* — because Lamson integrated conveying systems "float" merchandise from production to storage to shipping docks . . . quickly, efficiently, economically. Handling time is frequently cut 20%. Lamson will do as much or more for you.

Lamson offers the most complete line of heavy- and light-duty belt, gravity and live roll conveyors; overhead chain, and heavy-duty re-

ciprocating vertical conveyors; continuous combining vertical conveyors and special conveyors, and automatic pallet loaders. Our seventy-six years' experience in the design and manufacture of conveying systems has been proved in hundreds of *large* and *small* installations . . . in every industry.

Why not talk over your conveying problems with a Lamson engineer? He'll show you ways to cut costs and meet production schedules by eliminating bottlenecks, and fill every order in an absolute minimum of time.

FOR FREE INFORMATION, CLIP TO YOUR LETTERHEAD



CORPORATION

2444 Lamson Street Syracuse 1, New York

Plants in Syracuse and San Francisco.
Offices in Principal Cities.

Circle No. 123 on Reader Service Card for more information

Send me these bulletins:

() "Conveyor Facts"

() 28-page Roller Gravity Bulletin

2444

CATALOGS

(Continued from page 40)

Shelving and Rack Fittings . . . that eliminate pipe threading and welding, make for strong and speedy construction and increased structural strength are fully described in technical bulletin available from National Industrial Supplies Co., Inc.

Circle 150 on Reader Service Card

Lightweight Steel Shipping Container . . . nests, stacks, palletizes without sacrificing strength, and saves on freight costs is detailed in complete in-

formation offered you by Ackermann Manufacturing Co.

Circle 20 on Reader Service Card

Belt Conveyor Idlers . . . with two bearings, resilient discs on flexible steel cable which conforms to load and cushions the belt are described in bulletin 81-42 provided by Joy Manufacturing Co.

Circle 116 on Reader Service Card

'One-Clamp' Rack System . . . uses your pipe or tubing to build every type storage rack; pallet, drum, bar stock. Versatile, fast strong. Complete informa-

tion available from Tubular Structures Corp. of America.

Circle 197 on Reader Service Card

Terminal Type Trucks . . . for conveyor or manual operation, featuring all-welded construction, low dock height, easy rolling, rack for small packages, hardwood replaceable deck, smooth-ground finish for safety and optional matching trailers are fully detailed in data from Jakes Foundry Co.

Circle 115 on Reader Service Card

Floor Trucks and Industrial Trailers . . . standard or custom-built for efficient service are completely described in a new 24-page floor truck catalog offered you by the Lansing Co.

Circle 126 on Reader Service Card

How to Figure . . . your own conveyor horsepower and belt width in short order is the subject of a folder available from Barber-Greene Co.

Circle 41 on Reader Service Card

Dock Shelters . . . to provide a foldable tunnelled passageway between building door and truck or freight door, and protect your loading dock personnel and merchandize from adverse weather; are detailed in literature offered you by Dazzo Products Co.

Circle 57 on Reader Service Card

Woven or Flat Wire Process Belts . . . of bright or galvanized steel, corrosion resistant stainless steel, or chrome nickel alloys for high temperature operations are illustrated in catalog F55 from Ashworth Bros. Inc.

Circle 15 on Reader Service Card

Plant Layout Prints . . . on transparent film eliminate drafting when making blueprints are completely described in special catalog available from Harman Associates.

Circle 101 on Reader Service Card

Heavy Duty Brakes . . . for every industrial application, include floating shoe hydraulic brake designed for close control with heavy loads. Complete details on the brake are available from Timken-Detroit Brake Div., Rockwell Spring and Axle Co.

Circle 191 on Reader Service Card

British Mechanical Handling Exhibition . . . to be held in London, England, May 9-19 is fully described in Exhibition Brochure with convention and admission details, available from Mechanical Handling Magazine.

Circle 122 on Reader Service Card

One-Man Car Door Opener . . . opens any box car door in seconds. Complete literature available to you from the Nolan Co.

Circle 152 on Reader Service Card



BUFFALO
Conveyor
THE BELT WITH THE BOUNCE

...delivers years of extra wear at a fraction of the cost!

Maybe you are one of the persons who doesn't know that our solid-woven COTTON Conveyor belts can take a lot more abuse and LAST LONGER than supposedly stronger, harder, stiffer materials. That's because COTTON has that BUILT-IN BOUNCE that can take a smashing blow from a hammer and make the hammer bounce but never leave a bruise on the belt. Our Cotton belts ABSORB IMPACT and AVOID ABRASION because they mold themselves AROUND obstructions and keep on going. PLUS that, you'll find that our belts COST only a FRACTION of what you may be paying for inferior performance. And... Buffalo Belts are available untreated or with SIX SURFACE COATINGS to make them resistant to acids, alkalies, grease, oil, water, heat and other deteriorating elements.

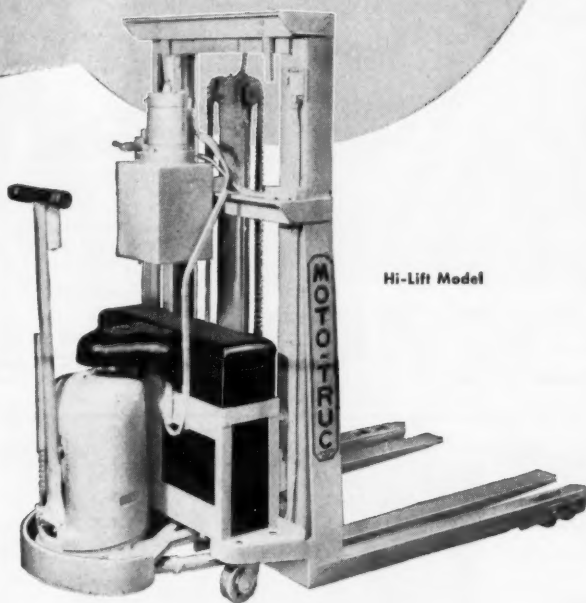


WRITE FOR 14 PAGE MANUAL
on "How to Buy The Correct Belt for Your Conveying Job". Illustrates uses, Maintenance Tips, Sizes, Prices.

BUFFALO WEAVING & BELTING COMPANY
202 CHANDLER STREET BUFFALO 7, NEW YORK
NEW YORK PHILADELPHIA CHICAGO DETROIT LOS ANGELES

Circle No. 38 on Reader Service Card for more information

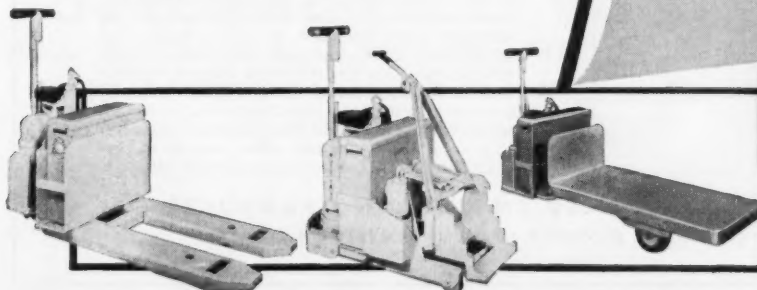
8 reasons why **YOU** should buy **MOTO-TRUC**



Hi-Lift Model

Whether your materials handling needs require standard equipment or must be custom built, it will pay to investigate MOTO-TRUC. From the very inception of the battery operated walkie type truck (developed by MOTO-TRUC in 1936) MOTO-TRUC design and development has set the "pace" in the industry.

The features listed above are only a few of the advantages offered by MOTO-TRUC. Write for literature covering *all* the features and models available.



MANEUVERABILITY . . . shortest overall length

LOAD SAFETY . . . Low center of gravity, four point load support

SIMPLICITY OF OPERATION . . . patented roller grip controls

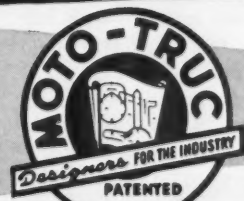
CONSTANT TRACTION . . . spring loaded drive unit on high lift models

LESS DOWN TIME . . . Interchangeable Power Unit

EASE OF MAINTENANCE . . . Simplified for quick service

RUGGED CONSTRUCTION . . . All welded frame construction

VERSATILITY . . . There's a MOTO-TRUC for every purpose



The MOTO-TRUC Co.

Representatives in Principal Cities

1955 E. 59th St. • Cleveland 3, Ohio
Pallet . . . Platform . . . Hi-Lift Trucks
The Originators of the Walkie and Small Rider Type Truck.



**HOIST WEIGHS
ONLY 16½ LBS.**

**HANDLES
2000 LB. LOADS
EASILY**

'Tugit' is the handiest portable hoist ever built. It is geared to make tough jobs easy — lifts or pulls a ton at any angle with only 40 lbs. of muscle effort. You can move loads as little as ¾" at a time — with a 'Tugit'.

Small size and lever action make 'Tugit' a cinch to operate in close quarters. It is versatile and rugged — ideal for thousands of maintenance jobs. Equipment installers, riggers, fence erectors, utility crews, assemblers — all find new uses for 'Tugit' every day. Safe — has non-kicking 12" handle. Compact — fits any tool box. 1 and 2-ton sizes. Call your Shaw-Box Distributor or write us for Bulletin 388.



'Tugit' HOISTS

MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN

Builders of "SHAW-BOX" and "LOAD LIFTER" Cranes, "BUGGY" and "LOAD LIFTER" Hoists and other lifting specialties. Makers of "ASHCROFT" Gauges, "HAWCOCK" Valves, "CONSOLIDATED" Safety and Relief Valves, "AMERICAN" and "AMERICAN-MICROSEN" Industrial Instruments, and Aircraft Products.

Circle No. 149 on Reader Service Card
144

CATALOGS

Continued

Industrial Casters . . . with king bolt micrometer adjustment of swivel raceways to suit individual conditions; hardened and polished ball bearings and large diameter hardened raceways that are factory lubricated, for friction-free movement and long life are detailed in data offered by Faultless Caster Corp.

Circle 77 on Reader Service Card

How to Make Your Own Crane . . . with a pair of self-aligning ball bearing trucks and any crane beam is fully detailed in bulletin F-128 available from Abell-Howe Co.

Circle 1 on Reader Service Card

Gas Truck GS Approved . . . by Underwriters' Laboratories in capacities of 3000 to 10,000 pounds. Full facts about engineering features on these GS approved trucks available to you from Yale & Towne Manufacturing Co.

Circle 211 on Reader Service Card

Walkie Powered Lift Truck . . . featuring 1000 and 1500 pound capacities with lifts up to 120 inches, batteries and built-in charging unit are fully described in bulletin W555 offered you by Economy Engineering Co.

Circle 74 on Reader Service Card



Why Jim Davis Picked RED GIANT HAND LIFT TRUCKS

BOY- THESE RED GIANTS SURE HANDLE WELL!

I'LL SAY! AND THESE TIMKEN ROLLER BEARINGS ARE SEALED AND LUBRICATED FOR LIFE! AND THE HANDLE CAN'T KICK WHEN LIFTING OR LOWERING LOAD!

AND LOOK AT THIS RELEASE CHECK- IT'S A REAL SHOCK ABSORBER- TO PROTECT EVEN THE MOST FRAGILE CARGO! I CHECKED THEM ALL, AND RED GIANT HAS THEM ALL BEATEN!

WRITE IN FOR OUR FREE COMPLETE TRUCK INDEX OF RED GIANT MODELS IN OVER 600 COMBINATIONS OF SIZES AND CAPACITIES!

REVOLVATOR CO.
87 TONNEL AVE., NORTH BERGEN, N. J.

Circle No. 168 on Reader Service Card



Get a **FIELD** from **FIELD . . .**

LOAD-O-MATIC

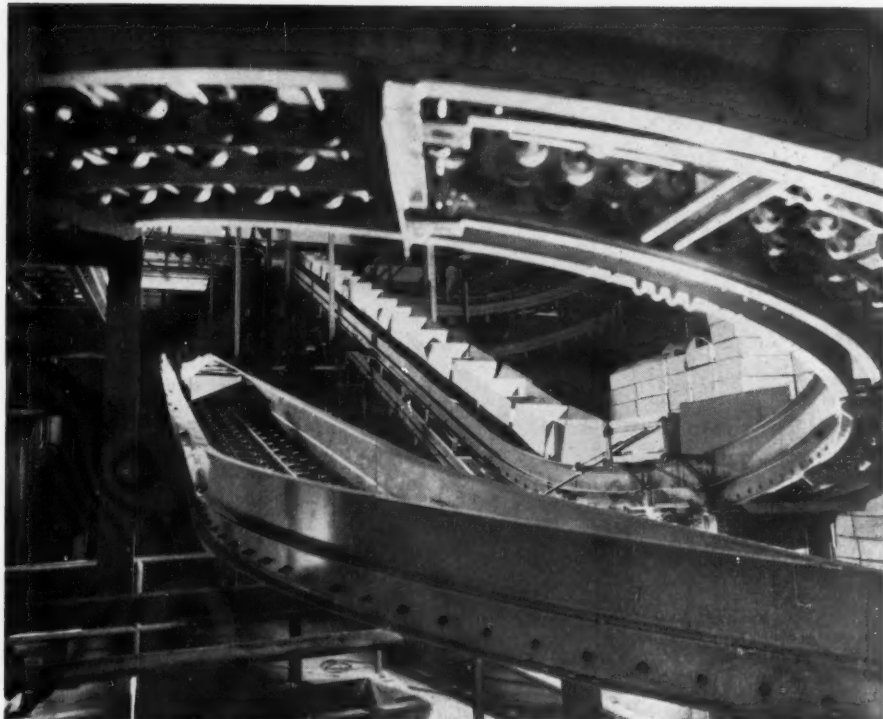
Effortlessly, smoothly, and quickly, the Field **LOAD-O-MATIC** automatically lifts loads up to 20,000 lbs. from loading dock to floor of truck, whether truck is above or below dock. The **LOAD-O-MATIC** drastically cuts loading time. Always working on the level eliminates spilling, prevents accidents. Two models available: two-post for loads 10,000-20,000 lbs.; one-post, under 10,000. **LOAD-O-MATIC** can be installed at ground level with rear safety barrier to prevent run-off . . . For details, write for bulletin.

FIELD ENGINEERING PRODUCTS CO.
66 FOOTE AVENUE · JAMESTOWN, N. Y.

Circle No. 78 on Reader Service Card for more information

FLOW

FMC Power and Gravity
Conveyor in action in a
large warehouse system



Versatile—
Flexible

FMC

power conveyor

WORK-HORSE CONSTRUCTION...

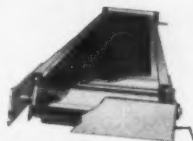
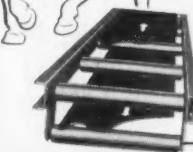
You can specify and apply FMC power conveyor and accessories with the confidence that their performance will easily match or exceed your most rigid requirements. In design, this equipment is modern; in manufacture, it's mechanically correct; on the job, it's efficient and long-lived.

Yes, FMC Power Conveyor will solve your materials handling problems at a saving. Used in conjunction with the perfected automation of the 3 units shown at the right, FMC power conveyor substitutes *push-button*, automatic operation for the *uncertainties and drudgery* of case-manhandling. Request the 24-page Bulletin that describes versatile FMC power conveyors and accessories. Clip and mail the coupon below today.



plus ACCESSORIES
FOR COMPLETE
POWER SYSTEMS

including intersections, diverters, box stops, turns. FMC also manufactures a complete line of gravity conveyor and accessories, quality companions of FMC power conveyor.



LOW-POSITION
CHANNEL FRAME

SLIDER BED
CONVEYOR

LIVE-ROLL CONVEYOR

FOOD MACHINERY AND CHEMICAL CORPORATION

MATERIALS HANDLING SECTION — P. O. Box 552, Riverside, California



Please Send Bulletins checked below:

☐ Load-Palletizer ☐ Bottom Up Case Stacker ☐ Gravity Conveyor ☐ Pallet Loader-Unloader ☐ Power Conveyor Systems ☐ Printed Record Counters

NAME _____ COMPANY _____

ADDRESS _____ CITY _____ STATE _____

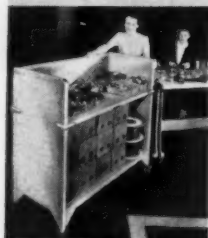
Circle No. 80 on Reader Service Card for more information

MADE OF MAGNESIUM

PUSHAROUNDS

Cut Handling Costs

Make Work Easier!



**PUSHAROUN
SHELF
TRUCK**

for industrial or department store applications. 500 or 1200 lbs. capacity.

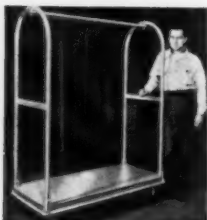
Made of MAGNESIUM, Pusharound handling equipment has the strength of steel but weighs only $\frac{1}{3}$ as much! Designed for ease of handling, long service life and minimum maintenance, Pusharounds carry more with less dead weight—costs less to own and operate in the long run. Write for the facts to-day!

**NEW PUSH-
AROUND HAND
TRUCK.** Hand-
les up to 450
lbs. with min-
imum weight.



Many Models for Department Stores:

Garment trucks, transfer trucks, shelf trucks and many other standard models.



**PUSHAROUN
GARMENT
TRUCK**

Inspection, marking, storage and handling—all in one light-weight operation.

WRITE TODAY

for Pusharound File Folder

BROOKS & PERKINS, INC.
1944 West Fort St. • Detroit 16, Mich.
Distributors in Principal Cities

Pusharound

magnesium handling equipment

Circle No. 35 on Reader Service Card
146

CATALOGS

Continued

Roller Conveyors . . . with a choice of plain ball non-lubricated bearings, dustproof sealed bearings, factory-lubricated bearings or pressure-lubricated bearings to meet specific requirements are completely detailed in a new 16-page catalog No. 60 published by E. W. Buschman Co.

Circle 39 on Reader Service Card

Electric Trucks . . . designed to change and charge batteries in three minutes, in eight standard models with automotive type dashboard, full elliptic springs front and rear, choice of belt or sprocket chain drive. Complete information available from Laher Spring & Tire Corp., Electric Car Manufacturing Div.

Circle 122 on Reader Service Card

"Conveyor Facts" . . . is the title of a new twenty-eight page bulletin on all types of conveyors offered you by the Lamson Corp.

Circle 123 on Reader Service Card

'Tailor-Made' Fork Lift Trucks . . . engineered for specific applications, includes fifteen different models and more than sixty interchangeable attachments, are described in data available from the Townmotor Corp.

Circle 196 on Reader Service Card

Circle No. 101 on Reader Service Card FOR PHENOMENAL SAVINGS IN PLANT LAYOUT



**TEM
BLUE
PRINTS**

FROM LAYOUT TO BLUEPRINT WITH NO DRAFTING

TemPrints are outline prints on transparent film, reproducing to exact scale the standard machines in your plant or made to engineering specifications of your

particular equipment . . . they also include all office, materials handling, assembly, with tapes for walls, partitions, aisles, etc.

TemPrint Grids are transparent sheets cross-lined to $\frac{1}{4}$ " scale suitable for layout and floor plans.

When TemPrints are cut out and applied to the grids, the result is an accurate layout of your plant or office. Any number of duplicate prints accurately reproduced in the same size may then be made by processing through an Ozalid machine.

SIMPLY MAKE THE LAYOUT— AND THE LAYOUT WILL MAKE YOUR PRINTS

SCALE INDUSTRIAL MODELS



Harman has specialized in scale models for many years. Harman Miniatures are accurate reproductions to scale of well-known plant machinery and equipment. All models are dimensionally accurate — may be identified instantly. A special catalog is available on request.

SEND FOR CATALOG TODAY!

HARMAN ASSOCIATES
HALESITE, L. I., NEW YORK

He's lifting
5 tons
with 1 finger

Speed Handling...



Increase Storage Capacity with a C-F Lifter

Here's 1 man—a C-F Lifter and an electric hoist handling 5 ton packs of sheet steel with speed, safety and economy. One C-F Lifter handles a wide range of sizes . . . adjustments are made

by the operator in a few seconds, permitting the Lifter to shift from wide to narrow sizes in a few seconds. Made in capacities from 2 to 60 tons.

Bulletin SL-28 shows you how to cut handling costs. Write for it today.



CULLEN-FRIESTEDT CO.

1307 South Kilbourn Avenue • Chicago 23, Illinois



Circle No. 53 on Reader Service Card for more information

FLOW

MARVEL-SCHEBLER



are the
KEY
to the
VAULT

Yes, the key to money in the bank! Thousands of users of gasoline powered motor vehicles have learned the economy and advantages of converting to LPG . . . annual savings of \$500 and up, per unit! Be economy smart! Convert to LPG! Analyze your own fleet operations and the possibilities of tremendous savings by LPG conversion. Marvel-Schebler, the pioneers in carburetion engineering have full information for you.



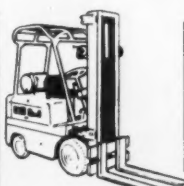
MARVEL-SCHEBLER OFFERS A COMPLETE LINE OF LPG EQUIPMENT FOR ALL CONVERSION NEEDS.



Carburetors and adapters



Regulators



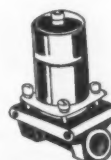
Fork Lift Trucks



Filters



Switches



Solenoid Valves



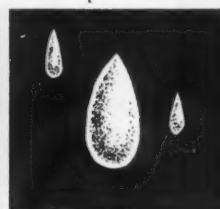
Maintenance costs are reduced! LP gas is evaporated faster and practically no carbon deposit is formed.



Longer engine life! LPG operated engines will run up to four times longer than gasoline operated engines before major overhaul is necessary.



Cuts fuel costs! LPG averages 5¢ cheaper per gallon than gasoline. This can mean \$300 to \$500 savings per unit per year in fuel alone.



No oil dilution! Oil service life is up to three times longer with LPG. With no harmful dilution, lubrication is better, motors last longer before repairs are needed.



Harmful, objectionable exhaust fumes reduced tremendously. LPG burns with reduced odor, making it the ideal fuel for use in warehouses and other closed industrial areas.

Write for complete catalog.



Marvel-Schebler Carburetion Systems carry the Underwriters' Laboratories Seal of Approval.



MARVEL-SCHEBLER PRODUCTS DIVISION
BORG-WARNER CORP., DECATUR, ILLINOIS



Circle No. 139 on Reader Service Card for more information

ALBION INDUSTRIAL CASTERS



Extra Heavy Duty
Casters



Triple-Wheel
Swivel Casters



"Thrifty"—Medium
Duty Casters



Square Tube
Top Casters



V-Groove Wheel
Casters



Pipe Base Casters



Dual Wheel
Casters



Giant Trailer
Casters



Pneumatic Tire
Casters



Heavy Duty
Casters

Immediately available in a broad range of sizes, types and capacities to meet every conceivable industrial application.

Specify Albion, when you need rugged dependability, complete protection . . . plus amazing economies.

ai **ALBION
INDUSTRIES Inc.**

ALBION • MICHIGAN

Circle No. 3 on Reader Service Card
148

CATALOGS

Continued

Aluminum Tracks . . . eliminate deadweight, are easier to move and cheaper to operate, according to data file offered you by Tobey Div. of Magnesium Company of America.

Circle 134 on Reader Service Card

Tubular Conveyors . . . with patented sealed pin chain design keeps abrasives out and lengthens chain life; moves most flowable materials, wet or dry, through any plain or angle, described for you in new catalog F-46 from Hapman Conveyors, Inc.

Circle 100 on Reader Service Card

Uniform Quality Roller Chains . . . for smoothness of operation, reserve strength and long-life dependability are shown in data from Diamond Chain Co., Inc.

Circle 61 on Reader Service Card

Hand Pallet Truck . . . with many modern features including five-inch hydraulic lift, 4600 pound capacity, 36-, 42-, and 48-inch fork lengths, 20½ and 27-inch widths and three-way control for raise, lower and neutral are described in illustrated literature offered you by Palliton, Inc.

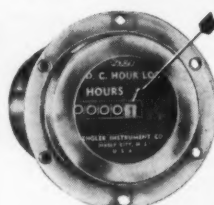
Circle 156 on Reader Service Card

Circle No. 69 on Reader Service Card



**LOOK!
No Hands**

ENGLER Direct-reading



**D.C.
HOUR
LOG**

Indicates hours and minutes of operation of powered equipment. Provides maintenance records and assures maximum utilization of equipment.

Used on

**MATERIAL HANDLING EQUIPMENT
TRACTORS • PUMPS • BOATS
GENERATORS • CRANES • GRADERS**

Installed as original equipment or recommended by leading manufacturers.

Send for Bulletin L 754

ENGLER INSTRUMENT CO.

256 Culver Ave., Jersey City, N. J.

ON-TIME MAINTENANCE MEANS:



- Better Performance
- Fewer Repairs
- Less Down Time
- Longer Equipment Life

HOBBS Engine Hour METERS

Take the guesswork out of protective maintenance! Know WHEN it's time to change oil . . . replace filters . . . lubricate . . . overhaul, etc.

The HOBBS Engine Hour Meter is an accurate electrical timing instrument which records HOURS and MINUTES of running time of all types of powered equipment . . . tells WHEN maintenance is due. Not a revolution counter. Two models — direct-reading (upper illustration) and pointer type. Ruggedly built . . . easy to install . . . low in price. See your factory branch, representative or distributor . . . or WRITE:

John W. Hobbs Corporation
2061 YALE BLVD. SPRINGFIELD, ILLINOIS
A Division of Stewart-Warner Corporation

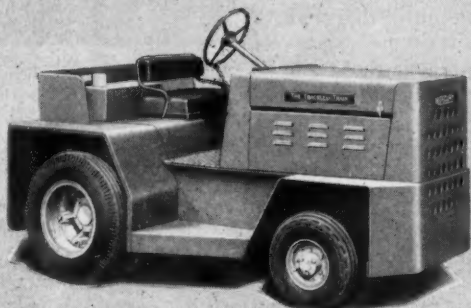
Circle No. 105 on Reader Service Card for more information

FLOW

Two completely *NEW* gas tractors ...by MERCURY



The MERCURY "Huskie" and "Super-Huskie" were designed for rugged service—built to move mountains of material for long, continuous hours. Working either inside or outside, on level ground or on steep grades, in any type of weather, these new models will move your tonnage, regardless of size, shape or weight, for less. Utilize the power of these new models for your material handling operations.



MERCURY *"Super-Huskie"*

MODEL 950 - Gas Tractor

Specifically designed for extra-heavy duty, the MERCURY "Super-Huskie" is a 6-wheel model developing a D.B.P. of 5,000 lbs. It incorporates the same features designed into the new "Huskie."

LOOK FOR US BOOTH 1003

Materials Handling Institute's Convention
Cleveland, Ohio • June 5 through June 8

MERCURY

FORK TRUCKS • TRACTORS • TRAILERS

MERCURY *Huskie*

MODELS 930 and 940 GAS TRACTORS

4 Wheels—DBP of 3,000 and 4,000 lbs., respectively

AVAILABLE IN LPG OR REGULAR GASOLINE MODELS

- ★ Six cylinder industrial engine—heavy duty clutch—fluid coupling and synchromesh transmission with provision for power take-off.
- ★ Full spring suspension—standard with all MERCURY tractors.
- ★ Smooth, functional body . . . frame, bumpers and fenders welded to form integral unit.
- ★ Unusual accessibility to all component parts.
- ★ Tops in operator comfort.

OPTIONAL EQUIPMENT:

1. L.P. Gas fuel system.
2. Torque converter and planetary transmission providing two speeds forward and one reverse, eliminating clutch pedal.

MAIL COUPON TODAY

MERCURY MANUFACTURING COMPANY
4154 South Halsted Street, Chicago 8, Illinois

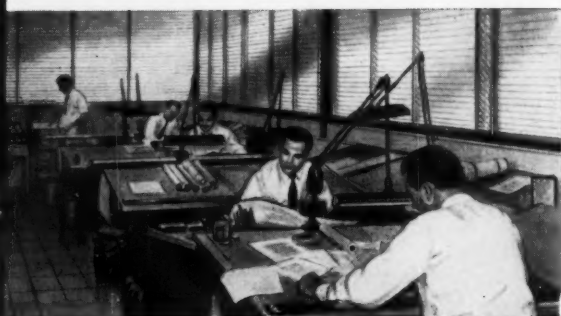
Send me the following Mercury Bulletins:

- ☐ T-103 - Model 930, "Huskie" Gas Tractor
☐ T-104 - Model 940, "Huskie" Gas Tractor
☐ T-105 - Model 950, "Super-Huskie" Gas Tractor

NAME _____
 ADDRESS _____
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AUTOMATED EQUIPMENT

ENGINEERED FOR YOUR SPECIFIC REQUIREMENTS

Most of America's leading manufacturers are well aware of the many advantages of automation. The question is no longer "Should we automate?"—competitive market conditions have answered that! The problem now becomes, "To what extent is it practical and profitable to automate—and how far should we go now?"

The Service Conveyor Company can help you determine the solution to this problem—a solution that will meet all your operating and cost requirements. Drawing upon its twenty-five years of experience in the field of practical automation, Service can plan, design, engineer, build and install the *right* automated facilities and equipment for your plant!

Service—engineered automation does not mean installing *all* new equipment. Service utilizes your existing facilities—supplementing them with the additional equipment required—to achieve continuous, integrated production flow. Discuss your automation plans in complete confidence with a Service engineer. Write for full details today!



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DEPT. 34

Engineered Automation—Ideas, Methods and Experience

Circle 178 on Reader Service Card for more information

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MEN IN THE NEWS

(Continued from page 52)

Towmotor Corporation. . . R. L. Fairbank, General Sales Manager, who is chairman of The Material Handling Institute's Exposition Committee, estimates an attendance of 15 to 20 thousand visitors to the MHI Exposition in Cleveland (June 5 through 8).



R. L. Fairbank

At Pettibone Mulliken Corporation. . . Wade Meloan has become vice president. He has been with the corporation since '43 and treasure since '47. His successor as treasurer is **Lawrence E. Denman**, who joined the firm in '53 as assistant treasurer.

At Broderick & Bascom Rope Co. . . Henry W. Wilker has retired, at the age of 80, after 65 years with the company. He started in 1890 as a wire spooler in the factory. In the early 1900's, he became Pacific Coast Manager and, until the time of his retirement, actively contacted the trade in the states of Washington, Idaho and Montana.



Henry W. Wilker

At National Starch Products Inc. . . S. F. Thune is being promoted from vice president and manager of the Midwest Division to sales vice president of the National Adhesive Division, with headquarters in New York. **Frank Murphy**, now manager of the Pacific Coast division replaces Thune of the midwest division, headquartered in Chicago. **R. A. DeWolfe**, currently New York adhesive sales supervisor, is being made manager of the Pacific Coast Division. And **Larry Horan** takes over supervision of the New York adhesive sales district after having been Midwest supervisor of paint and related resin sales.

At Otis Elevator Company . . . Fred I. Anderson has been named freight traffic manager by **L. W. Whitton**, vice president in charge of production. Anderson will be responsible for ship-

FLOW

Rapistan® casters

**set new standards
for performance**

TESTS PROVE RAPISTAN SUPERIORITY

We'll show you charts comparing Rapistan performance with performance of other brand name casters.

OR . . . you remove the brand identification from a set of the casters you are now using. Give them to a Rapistan representative for comparison tests. We'll test them under identical conditions with similar Rapistan casters, and send you sworn statements of actual results.

OR . . . let us send you a set of Rapistan casters similar to those you use. Test them on your equipment under your own work conditions.

OR . . . write us for further information.

IN-USE TESTS GIVE EXACT MEASUREMENTS FOR INDUSTRIAL CASTER QUALITY To provide exact measurements for all important caster qualities, Rapistan has established performance standards and devised procedures and equipment for making comparison tests of all sizes and types of casters.



The Rapistan **OVER-ALL ENDURANCE** Test . . . A practical measure of caster and

rig life in hours under simulated work conditions. Caster is mounted on truck with rated load, and power-towed until breakdown in circular route over a steel floor, with sills and other common obstacles.



The Rapistan **ROLLABILITY** Test . . . Measures tendency of caster to continue rolling freely under a rated load, after driving source is removed. Performance measured in seconds from 10 MPH to zero by placing weighted caster in contact with power driven drum, and rotating drum at more than 10 MPH before disconnecting power.



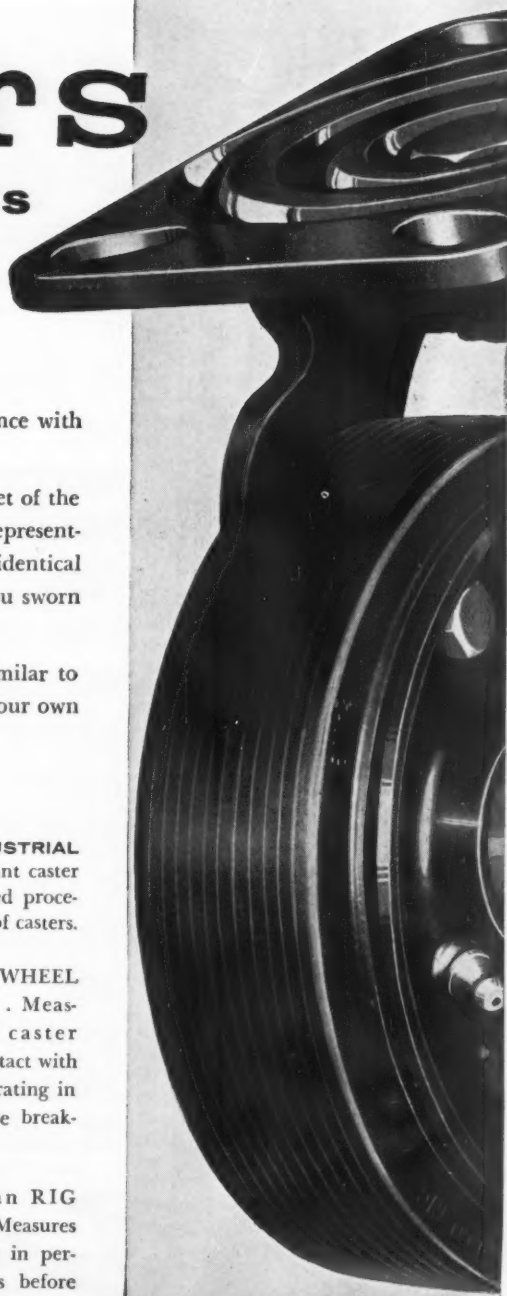
The Rapistan **WHEEL LIFE** Test . . . Measures life of caster mounted in contact with a power driven drum, with rating in hours of performance before breakdown under various loads.



The Rapistan **RIG LIFE** Test . . . Measures life of raceway in performance hours before breakdown. Tests are made on spinning equipment which rotates casters on swivel until breakdown.



The Rapistan **CRUSHING** Test . . . Measures in pounds, the caster's acceptance of maximum loads, by applying concentrated pressure on rig and wheel until any component fails.



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**FASTEST GROWING NAME
IN CASTERS**

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**Less
man-power
and
more
hydraulic
power**

**in
lift trucks—
the
American
Safeway
Truck
helps you
move, stack,
lift or lower
heavy
goods
in your
plant
with
greater
efficiency.
23 models**

**DISTRIBUTORS IN
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The American Pulley Company

**MATERIALS-HANDLING DIVISION
4290 Wissahickon Avenue
Philadelphia 29, Pa.**

**Circle 8 on Reader Service Card for more information
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MEN IN THE NEWS

Continued

ments of products from Otis plants in Harrison, N. J. and Yonkers, N. Y., where he will have his office. He joined Otis in 1927 as a messenger in the traffic department.



Wallace G. Smith, Jr.
and mechanical lifting products.

At Globe Hoist Company. . . **Frank Breckenridge**, vice president, has named **Wallace G. Smith, Jr.**, sales manager for the company's Industrial Lift Division. Smith's headquarters will be at Globe's Philadelphia plant, where he will direct sales and distribution of oil-hydraulic and material handling

At Koehring Company . . . **K. R. Chandler** has been appointed service manager by **John S. Conway**, vice president of sales, Chandler, who succeeds **G. N. Nelson** who retired after 44 years with Koehring, joined the firm's engineering staff in '48.



K. R. Chandler

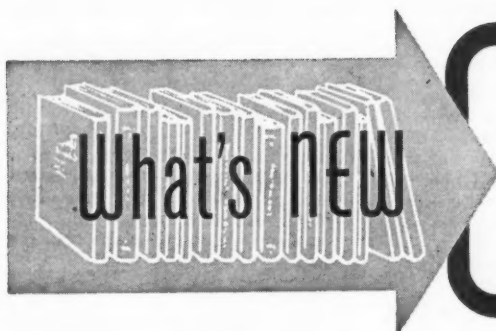


Richard J. Donnelly

At Clark Equipment Company. . . **Richard J. Donnelly** has become manager of labor relations, according to **Bert Walter**, manager of industrial and community relations. Donnelly has had personnel assignment for the past 15 years with General Motors, Consolidated Vultee, and Piasecki Helicopter Corp.

At Robert Gair Company, Inc. . . **George E. Dyke**, president, has been presented the 1956 Honor Award of the University of Maine, Pulp and Paper Foundation in recognition of his years of service to the paper industry.

FLOW



in useful literature

A bibliography of New and Current Manufacturers' Publications available upon request. Indicate choice (s) on self-mailing Reader Service Card on pages 35 and 36.

Handling By Crawler:

Many of the jobs you can do with a crawler tractor are suggested by colorful illustrations in a 12-page booklet just published by American Tractor Corp. It shows the complete Terratrak line, plus matching loaders, dozers, backhoes, scarifiers, winches; material-handling fork lift; and tilt-loading trailers.

Circle 215 on Reader Service Card

Power Sweeper Specifications:

Newly designed power sweepers—Models 605 and 606—capable of sweeping up to 100,000 or more square feet per hour are described in a folder by Wayne Manufacturing Co. Equipment features the "Filter-Vac" dust control which eliminates a dust bag.

Circle 216 on Reader Service Card

Largest Shovel at Work:

The world's largest power shovel at work is the feature of the lead article in the latest issue of Marion Power Shovel Co.'s publication, "The Marion Groundhog". Other articles in the booklet show applications of power shovels under almost every conceivable condition.

Circle 217 on Reader Service Card

Transfer Switch Guide:

A new 28-page bulletin GEA-4746B, covering General Electric Co.'s complete line of control and transfer switches for low voltage applications up to 600 volts AC or DC is now available. It includes photos, drawings, cutaways and discussions of special features.

Circle 218 on Reader Service Card

Describes Electric Fork Trucks:

Two six-page illustrated bulletins, in color, give performance specifications, dimensions, details on controls and construction and tell about available attachments for two new electric fork trucks. Manufactured by Baker-Raulang Co., the trucks were designed especially for high maneuverability, ease of maintenance and increased operator comfort and convenience.

Circle 219 on Reader Service Card

Electrically-Driven Trucks:

New catalog covers trucks that range in size and load capacity from the compact operator-led Transporters to Giant Skylift fork and ram trucks made by Automatic Transportation Co. Also illustrated are platform and pallet trucks, cranes and special trucks of various kinds.

Circle 220 on Reader Service Card

Clues to Better Handling:

The latest issue of "Handling Materials Illustrated", colorful house organ of Towmotor Corp. is full of cost cutting information for companies having storage or material handling problems related to receiving, production, warehousing or shipping. The issue contains fully illustrated material handling case histories covering economies effected by fork trucks in handling diverse materials.

Circle 221 on Reader Service Card

Portable Lift Movie:

Oster Mfg. Co. has produced a movie, "A Lift For Industry", which details various applications for portable lifts in a large number of industries. It provides comprehensive coverage of the economics of handling with equipment that need not be powered for horizontal transportation.

Circle 222 on Reader Service Card

Custom-Built Cylinders:

Information regarding design and materials used in manufacturing its custom-built cylinders is contained in a 6-page bulletin, 79000, from The Oilgear Company. Available for 1500 psi, 3500 psi, or higher pressures, the heavy-duty cylinders cover special applications that could not be accomplished with a standard cylinder.

Circle 223 on Reader Service Card

Safe Shipping:

The surest way to insure that your product is shipped the safest way is to talk to your nearest Stanley Steel Strapping specialist, according to The Stanley Works, Steel Strapping Division. He will help you with your packaging and shipping problems and tell you about the Stanley Floating Load System.

Circle 224 on Reader Service Card

Crane User Report:

Whiting Corporation has published an illustrated, 6-page booklet telling how its Trambeam overhead handling systems keep things moving from receiving, through production, to storage and shipping at the Chase Brass & Copper Company.

Circle 225 on Reader Service Card

V-Belt Drive Story:

The origin, history and development of the modern multiple V-belt drive are covered in a 36-page booklet from Allis-Chalmers Manufacturing Company. This valuable booklet covers the evolution of standards in engineering these drives, tells how to engineer a V-belt drive, provides tables and data and describes modifications in the drives.

Circle 226 on Reader Service Card

Heavy-Duty Valves:

Folder V-1 from Wisconsin Hydraulics, Inc., describes and illustrates the company's new C-series 4-way valves. For units up to 20 g.p.m., the heavy-duty valves feature a built-in pressure relief on the tank side, allowing "tamper-proof" settings.

Circle 227 on Reader Service Card

Pneumatic Conveying:

A 4-page reprint of a technical article on pneumatic conveying is available from Fuller Co. It presents a bulk handling system which extends from a flour mill to a bakery, and in which the various ingredients are transported in special cars and loaded and unloaded pneumatically.

Circle 228 on Reader Service Card

Univac for Inventory Control:

The use of the Univac File-Computer to handle inventory control for companies with widespread operations is described in an attractive 4-color brochure published by Remington Rand. The brochure (TM-998) cites the case of a manufacturer whose many different products are housed in 13 warehouses in various parts of the country. Univac gave it better and faster customer service, balanced inventories and savings in shipping costs.

Circle 229 on Reader Service Card

Easy Handling in The Foundry:

Details and photos showing how scrap and cupola charges are handled in a New England malleable iron foundry are given in Case History Report No. 31 by Elwell-Parker Electric Co. The foundry uses a battery-powered 6000 lb. capacity mobile crane, with electro-magnet, to handle 200,000 lbs. of scrap daily.

Circle 230 on Reader Service Card

Handbook of Handling Equipment:

Hundreds of items of handling equipment, their applications and specifications are shown in a profusely illustrated, magazine-size booklet published by Palmer-Shile Co. Discussions of standard designs as well as "specials" are included.

(Also reviewed in March)

Circle 231 on Reader Service Card

For Speedier, Safer Handling At Docks:

A fully illustrated bulletin from Cemco Industries, Inc., tells how the Hydraulic-Ramp (hydraulically adjustable ramp) cuts costs, congestion and injuries in loading and unloading at truck docks.

(Also reviewed in March)

Circle 232 on Reader Service Card

Resilient Cushion Material:

A catalog put out by L. O. F. Glass Fibers Co. gives condensed explanations and technical specifications on such topics as resilient cushion material and other products for vibration and shock control—as well as products for thermal and acoustical treatments.

(Also reviewed in March)

Circle 233 on Reader Service Card

Tool With 1001 Uses:

Model B "CM" Puller is described as the tool with 1001 uses in bulletin 146-G published by Chisholm-Moore Hoist Division, Columbus McKinnon Chain Corporation. The puller is a lightweight, portable device operated by a ratchet handle and is available in capacities from ¾ to 6-tons.

(Also reviewed in February)

Circle 234 on Reader Service Card

Crawler Tractor:

Catalog MS-457 offered by Allis-Chalmers Manufacturing Company contains engineering, design and performance features of the new HD-21 Diesel-powered crawler tractor.

(Also reviewed in February)

Circle 235 on Reader Service Card

Woven Wire Slings For Many Purposes:

Included in a new catalog on Gripper woven wire slings is a section devoted to slings covered with Neoprene or plastic for use in handling finished parts or other materials with delicate surfaces. Published by the Cambridge Wire Cloth Co., the illustrated book includes typical application photos, complete price and specification information.

Circle 236 on Reader Service Card

Utility Tractor For Heavy Duty Industrial Use:

Material handling as well as other commercial and industrial applications for the new International 300 Utility tractor is illustrated in a folder just released by International Harvester Co. Specifications, features and special duty attachments are also included.

(Also reviewed in March)

Circle 237 on Reader Service Card

Movable Walls:

Low cost movable walls you can erect yourself are described in a 27 page catalog by Unistrut Products Company. Many framing patterns, together with the simple steps of installation, are contained in the literature.

(Also reviewed in March)

Circle 238 on Reader Service Card

Check List For Preventive Maintenance:

Users of all types of electric industrial trucks are offered a detailed Preventative Maintenance Check List by Elwell-Parker Electric Co. It includes step-by-step schedules for checks at every 50 hours or weekly, 250 hours or monthly, and 1000 hours or every four months.

(Also reviewed in March)

Circle 239 on Reader Service Card

Production Expedited:

Latest issue of "Space", publication of Hyster Co., tells how modern homes are made to order in 11 minutes with the help of Hyster lift trucks. Trucks are also depicted speeding the flow of fresh fruit from Hood River Valley.

(Also reviewed in February)

Circle 240 on Reader Service Card

Large Capacity Loader For Confined Areas:

Information on a new tractor-shovel with a 1½ cubic yard capacity, designed to operate in restricted areas, is offered by Tractomotive Corp. The unit has front wheel drive for traction, rear wheel power steering, and clutch-type transmission to permit fast changes in direction without shifting gears.

Circle 241 on Reader Service Card

Complete Crane Specifications:

Bulletin 15-B-4 from Bucyrus-Erie Co. is a 40-page, well illustrated booklet on the model 15-B, ½-yd. shovel which is readily convertible to dragline, clamshell, dragshovel or lifting crane. It includes job studies, closeups of mechanical features, complete specifications and working ranges.

Circle 242 on Reader Service Card

Brake Bulletin:

Features and operating characteristics of the new Series E. electric brake are described in technical Bulletin C-11 released by Star-Kimble Motor Division of Miehle Printing Press & Mfg. Co. According to the firm, the new brake incorporates unusual design features of special interest to users of magnetic disk type brakes.

(Also reviewed in March)

Circle 243 on Reader Service Card

Details on New Two-Way Radiophones:

Portable, two-way "Handie-Talkies" just released by Motorola, Inc., are described in a folder covering descriptions, operating and design features, and accessories. Utilizing transistors, the radiophones are said to provide extended trouble-free life.

(Also reviewed in March)

Circle 244 on Reader Service Card

Strapping Catalog:

New developments in shipping paper and special handling of rolls of aluminum foil are among articles featured in a recent issue of "The Signode Seal", publication of Signode Steel Strapping Company.

(Also reviewed in February)

Circle 245 on Reader Service Card

New, Complete Crane Handbook Available:

A 175 page, 6x8-inch volume of data on electric traveling cranes has been produced by Whiting Corp. Case-bound and indexed, providing engineering tables, formulas and illustrations, it is intended for engineers and architects who need information for preparation and checking of new projects, application of cranes to existing structures, and modernization of equipment.

The book retails at \$10 but is available free of charge to qualified engineers and others directly interested in crane specifications. Applications should be made on business letterhead, with title, to Whiting Corp., Advertising Department, Harvey, Ill.

(Also reviewed in February)

Circle 246 on Reader Service Card

"Tape It Easy":

A 25 minute sound film, "Tape It Easy", is available from Minnesota Mining and Manufacturing Co. The film depicts various manual, semi-automatic and automatic taping machines in action, and is designed to acquaint industry with the time and labor saving advantages of tape automation.

(Also reviewed in February)

Circle 247 on Reader Service Card

Rubberized Hair Cushioning

"Packing for Maximum Protection" is the title of a booklet offered by Armour & Co., Curled Hair Division. It gives all the details of Hairflex, a rubberized-hair cushioning material constructed of springy curled hairs, locked in latex rubber, which absorb even the hardest in-transit shocks and vibrations.

Circle 248 on Reader Service Card

A Better Package:

How to build a better package for a product with plastics is illustrated and described in a booklet published by Bakelite Company, Division of Union Carbide and Carbon Corporation. Numerous photographs of modern plastics packaging show the breadth of their application from cake to chemicals.

(Also reviewed in February)

Circle 249 on Reader Service Card

Round Strapping Information

A brochure describing steel strapping equipment suitable for tying for shipment products weighing up to 100 pounds has been published by United States Steel's Gerrard Steel Strapping Div. Three separate models of strapping machines, and methods of using them, are shown.

(Also reviewed in March)

Circle 250 on Reader Service Card

All About Gearmotors:

Reliance Electric & Engineering Company's 8-page, two-color bulletin, "Reduce Speed", describes the new line of Reliance gearmotors. Included are sections on types, engineering details, maintenance and selection.

Circle 251 on Reader Service Card

Reliable Power:

Catalog MS-455 published by Allis-Chalmers Manufacturing Company covers the design, engineering and performance features of the four-cylinder, 60 hp W-266 power unit. Included in the catalog are specifications, cut-away views of the power package and many of its components.

(Also reviewed in February)

Circle 252 on Reader Service Card

**Use The Reader
Service Card on
Pages 35 and 36**

Improved Production:

Literature from The Wayne Pump Company tells how to provide lower cost and improve production. It suggests the use of scientifically designed and engineered industrial lifts.

(Also reviewed in February)

Circle 253 on Reader Service Card

Hand Truck Catalog:

Lansing Company's line of hand trucks, platform trucks, industrial trailers, wheels and casters is illustrated and described in a 24-page catalog. In addition to regular catalog items, "special" also are illustrated.

(Also reviewed in March)

Circle 254 on Reader Service Card

Magnesium Dock Boards In Many Sizes:

Full information on many sizes of lightweight magnesium dock boards is offered in Bulletin DB-203 published by Magline Inc.

Circle 255 on Reader Service Card

How To Figure Truck Costs:

The Elwell-Parker Electric Co. has prepared a four-page folder which tells how to figure your industrial truck costs. The literature covers the cost of truck ownership and operation and suggests methods to lower operating costs.

(Also reviewed in February)

Circle 256 on Reader Service Card

Truck Climbs Stairs:

Literature available from L-S Heating & Engineering Co. describes the Hyker, a magnesium one-man stairwalking hand truck. It is said to enable one man to handle double his own weight up and down stairs and on and off vehicles.

Circle 257 on Reader Service Card

Modern Tiering and Storing:

Illustrated folder offered by Palmer-Shile Company describes the advantages of modern tiering and storing with portable heavy duty bar racks.

(Also reviewed in February)

Circle 258 on Reader Service Card

Flow Charts:

It's easy to make flow charts when you use Chart-Pak, says literature from Chart-Pak, Inc. Catalog tells how to save time and money and keep confidential material in your own desk.

(Also reviewed in March)

Circle 259 on Reader Service Card

Makes Strapping Easier

A strapping table top, developed by Signode Steel Strapping Co., is described in a new data sheet. Constructed of metal clad plywood, in which one-inch ball casters have been mounted, the device is said to save time and effort, promote safety and pay for itself in a short time.

Circle 260 on Reader Service Card

Product Directory:

A 24-page directory titled "This is A-C from A to Z" has been released by Allis-Chalmers Manufacturing Company. In addition to an alphabetical description of the company's products and their descriptive literature, the directory has a brief history of Allis-Chalmers, plus the location of the firm's 17 plants, sales offices and tractor branch houses.

(Also reviewed in March)

Circle 261 on Reader Service Card

Auxiliary Hopper:

Red Cross Mfg. Corp.'s Load-R-Lift is the subject of a recently published data sheet. It has a 20-inch trough, sloped flights, is extendable six feet in either direction and will dump any wagon or truck with ease.

Circle 262 on Reader Service Card

D-C Motors & Generators:

Facts about the General Electric Company's direct-current motors and generators are contained in specification sheets just made available by the company.

(Also reviewed in March)

Circle 263 on Reader Service Card

Heavy-Duty Grader:

Engineering, design and performance features of the Forty-Five motor grader are pointed out in catalog MS-446 published by Allis-Chalmers Manufacturing Company. Features that provide maximum safety and comfort for the operator are also outlined, along with specifications.

(Also reviewed in March)

Circle 264 on Reader Service Card

Compact Valve:

Technical bulletin V5006 available from Automatic Switch Company describes in detail a new one-inch size 2-way solenoid valve for use in handling corrosive fluids and gases.

(Also reviewed in March)

Circle 265 on Reader Service Card

Hoists and Derricks:

Catalog published by American Hoist and Derrick Company shows hoists and derricks at work in a number of different industries. The units are described as being rugged and versatile.

(Also reviewed in February)

Circle 266 on Reader Service Card

Swinging Door Storage Cabinet:

A brochure produced by Borroughs Mfg. Co. provides complete, illustrated details on a new steel storage cabinet which features: swinging doors; single, central handle; and interchangeable interior parts for high adaptability.

Circle 267 on Reader Service Card

1956 Guide to Plastics

Packaging

An eight-page booklet that covers the subjects: film packaging; coatings applied to metal; foil and paper; molded and blown plastic containers; and closures and rigid vinyl sheets for packaging is available from Bakelite Co. As a ready reference guide, the booklet indicates the almost infinite number of ways plastic materials can be used to package a great variety of products.

(Also reviewed in March)

Circle 268 on Reader Service Card

Absorbs Shock:

Catalog prepared by B. F. Goodrich Company gives details on Textile rubberized hair and/or wool, a shock absorbing material said to provide safe packaging for anything to be shipped anywhere. The literature contains specific data that will enable an engineer to accurately figure his own requirements.

(Also reviewed in February)

Circle 269 on Reader Service Card

Shipping Container Slide Rule

Gross weight of facings, size and bursting strength of containers are correlated in seconds by a shipping container slide rule available from Robert Cair Co. The handy device also includes Government specifications for weather-proof containers. An extremely simple and easy to use shipping aid which you can get free.

(Also reviewed in March)

Circle 270 on Reader Service Card

Conveyor for Builders:

A new bulletin (No. 551) released by Marion Mfg. Co., describes the Marion Mule Builders Conveyor. The Mule is offered in 22, 32, and 42-foot lengths with maximum discharge height of 30 feet above ground level.

Circle 271 on Reader Service Card

Hydraulic Tail Gates:

A 2-page bulletin describing its Model H-11 series of power-lift hydraulic tail gates is announced by Hercules Steel Products Company. Covering both electric-hydraulic and power take-off driven models of 1100 pounds capacity, it includes operation, controls, construction, suggested applications, and condensed specifications.

(Also reviewed in March)

Circle 272 on Reader Service Card

Application Ideas for Industrial Engines:

Some interesting uses for motors produced by the firm's publication, "Engineered by Wisconsin Motor Corp. are described and illustrated in the latest news".

Circle 273 on Reader Service Card

Self-Propelled Crane-Shovel:

A 4-page illustrated bulletin describing the self-propelled Model CR-35 Bantam is announced by the Schield Bantam Company. The bulletin, designated No. CR-501, contains detailed information concerning specifications, features, operating data and capacities of the $\frac{3}{4}$ -cubic-yard 6-ton crane-shovel.

(Also reviewed in March)

Circle 274 on Reader Service Card

Plastic Tanks:

A two-color, 6-page bulletin, No. 8946A, describing three models of the Class 38 automatic weighing unit for bulk materials is offered by Richardson mounted bodies activated by telescopic hoists.

(Also reviewed in February)

Circle 275 on Reader Service Card

New Wood Storage Method:

New ideas in wood storage handling at Rome Kraft Company are featured in No. 14 of a series of articles published by Jervis B. Webb Company. The brochure covers the entire process of manufacturing kraft—from storage to finished product.

(Also reviewed in March)

Circle 276 on Reader Service Card

Three-in-One Unit:

Kwik-Mix Company has issued an 8-page brochure which shows how its Moto-Bug combines three material handling tools in one. Dump hopper, tilting platform and fork lift attachments interchange on a standard chassis.

(Also reviewed in March)

Circle 277 on Reader Service Card

Complete Truck Line:

A 4-page folder covering its complete line of industrial trucks is available from Lewis-Shepard Products, Inc. The illustrated circular gives a brief description of each of the 42 trucks and attachments included, both powered and non-powered.

(Also reviewed in March)

Circle 278 on Reader Service Card

Steel Strapping:

Recent issue of The Signode Seal, publication of Signode Steel Strapping Company, tells how to replace custom-made containers, and discusses new development in shipping paper.

(Also reviewed in February)

Circle 279 on Reader Service Card

Electric Fork Truck:

Automatic Transportation Company announces a 4-page bulletin describing a 200-pound-capacity electric fork truck. The booklet contains specifications of construction, including details on frame, uprights, cantilever and traction drive axle.

(Also reviewed in March)

Circle 280 on Reader Service Card

Shipping Room Booklet:

Fifty fastening tools are described and illustrated in a shipping room booklet published by Bostitch. The booklet shows various fastening jobs and the wire stitching machines best suited to perform them.

(Also reviewed in February)

Circle 281 on Reader Service Card

Direct-Reading Engine Hour Meters:

Photos, drawings, application examples and tabulated specification cover the new direct-reading engine hour meters of the John W. Hobbs Corp. in the February-March issue of "Hobbs Hour Meter Talks".

Circle 282 on Reader Service Card

Carloading Check Chart

A check chart for anchored loads in freight cars has been developed by Signode Steel Strapping Co. Using a drawing-and-caption type presentation, it gives valuable pointers for preparing the car, wrapping anchor plates, draping the car, constructing and installing bulkheads and getting the most out of strapping tools.

(Also reviewed in March)

Circle 283 on Reader Service Card

Increased Productivity:

Literature from Jervis B. Webb Company tells how to get increased productivity and profits through automatic transfer devices, automatic controls, and conveyors of all types.

(Also reviewed in February)

Circle 284 on Reader Service Card

Automatic Bulk Scales:

The Heil Company discusses the strength and insulating performance of plastic tanks in a recent issue of Sales Booster. Also covered are trailer Scale Company. The bulletin discusses construction, operation, feeding arrangements and capacities. Gravity, belt, screw and vibrating feed arrangements are diagrammed.

(Also reviewed in March)

Circle 285 on Reader Service Card

**Use The Reader
Service Card on
Pages 35 and 36**

Gear-Type Pumps:

The Kalamazoo Division of The New York Air Brake Company has issued a bulletin on the Hydreco 3600 series gear-type hydraulic pumps which are specially designed for large industrial and mobile equipment applications.

Circle 286 on Reader Service Card

"Cat" Diesels:

"Why Cat Diesels Are Best" is a 16-page booklet offered by Caterpillar Tractor Co. It covers some of the features incorporated in manufacturing Cat diesel engines, lists some of its advantages and discusses turbocharging.

Circle 287 on Reader Service Card

Pneumatic Tubes:

"Airtube on Target" is a 50-page catalog released by Lamson Corporation. A hard-covered book, it describes the several sizes of Airtube systems, central desk and the semi- and automatic switch systems as well as the variety of carriers that are available.

Circle 288 on Reader Service Card

Preventing Cargo Losses

"Protected Cargoes," a 16 mm. sound film on preventable marine losses, has been produced by the Marine Service Department of the Insurance Co. of North America Companies. The film depicts dramatically the many hazards of overseas shipment and discusses the loss prevention measures in packaging that overcome these problems. It is available for showing to organizations engaged in foreign trade.

Circle 289 on Reader Service Card

Galvanized Steel Conveyors:

The Rapids Standard Company, Inc. has issued a 4-page bulletin detailing its galvanized steel gravity conveyors. Included in the folder is the story of the galvanizing process which prevents galvanized steel from flaking or chipping under extreme tests.

(Also reviewed in March)

Circle 290 on Reader Service Card

Export Packaging Information

The Overseas Packing and Processing Co. has issued a new brochure which explains the complete list of services and facilities it offers. It includes various types of consolidating, crating and packing . . . unitized packaging and marking . . . plant dismantling and machinery rebuilding.

(Also reviewed in March)

Circle 291 on Reader Service Card

Report on Car-Spotter:

Results of field tests on the Whiting heavy-duty Trackmobile are available from Whiting Corporation. The 6-page report covers a 2½-year period during which the machine underwent intensive tests under actual operating conditions in major plants representing a wide cross-section of industry.

Circle 292 on Reader Service Card

All About Extrusions:

A comprehensive 24-page booklet covering heavy press extrusions is available from Kaiser Aluminum & Chemical Sales, Inc. The publication gives detailed information on the company's presses, how they operate, their manufacturing capacities and extrusion design suggestions.

(Also reviewed in March)

Circle 293 on Reader Service Card

Transfer Units:

An illustrated 4-page bulletin which describes the Fuller Airslide transfer unit, a portable unit for unloading bulk flour, is offered by the Fuller Company, a subsidiary of the General American Transportation Corporation.

Circle 294 on Reader Service Card

Solves Strapping Needs:

A catalog sheet published by Alleghany Steel Band Company gives the widths and thicknesses, number of feet per pound and tensile strengths of both light and heavy duty Steel-band strapping in all available sizes. Four different styles of reel carriers, a complete list of accessories, a wide selection of tensioning, shearing and sealing tools, and seals in three different styles of copper-plated steel also are shown.

(Also reviewed in March)

Circle 295 on Reader Service Card

Selection of Canvas Belts:

Data on the selection and specification of stitched canvas belts is given in a new, illustrated catalog published by Main Belting Co. It includes details of construction, impregnation and curing, as well as recommendations for applications with all types of conveyors and materials.

(Also reviewed in March)

Circle 296 on Reader Service Card

Determining Magnesium Dock Board Requirements:

Charts which tell quickly and easily the cost of dock board equipment for different axle load capacities—ranging from 4,500 to 14,500 lbs.—are included in Bulletin PK-156M by Magnesium Products of Milwaukee.

(Also reviewed in March)

Circle 297 on Reader Service Card

Drum Lifters:

Various types and applications of drum lifters—for use with cranes, hoists, or trucks—are described with pictures and specifications in a folder from Merrill Bros.

(Also reviewed in March)

Circle 298 on Reader Service Card

Bagging Scales:

Model FFFP automatic bagging scales for mill bagging are pictured and described in a two-color six page bulletin by Richardson Scale Company. Three basic styles—floor portable, overhead portable and overhead stationary—are explained.

(Also reviewed in February)

Circle 299 on Reader Service Card

How To Increase Warehouse Space:

Data sheets and a descriptive folder offered by J. R. Perkins Lumber Co. include comprehensive illustrated information on the advantages, applications, and assembly of Tier-Rack stacking pallets.

(Also reviewed in March)

Circle 300 on Reader Service Card

Conveyors in Construction:

Latest issue of Chain Belt Company's "The Rex World" includes pictured descriptions of applications of conveyors to handle building materials on construction sites.

(Also reviewed in March)

Circle 301 on Reader Service Card

Liquid Level Controls:

Electronic equipment for the control of liquid levels in a wide range of process applications is described in bulletins available from Machinery Electrification, Inc.

(Also reviewed in March)

Circle 302 on Reader Service Card

News and Ideas On Conveyorized Handling:

Latest and forthcoming products as well as applications of conveyors to numerous types of operations are included in the "Rapid Handler", publication of Rapids Standard Co. A tabloid-size newspaper, it is issued monthly by the company.

(Also reviewed in March)

Circle 303 on Reader Service Card

Uses For Fractional Horsepower D-C Motors:

General Electric Co. now provides a fully illustrated, detailed, 12-page publication on fractional horsepower, direct-current motors. It includes typical applications, product features, ratings and specifications for standard models. A section describes facilities, engineering and application assistance available for design and production of "specials".

(Also reviewed in March)

Circle 304 on Reader Service Card

Mobile Industrial Radio . . . A Case Study:

Uses, experience with, and advantages of industrial radio working at IBM are given in an illustrated brochure produced by Du Mont Communications Dept., Allen B. Du Mont Laboratories, Inc.

(Also reviewed in March)

Circle 305 on Reader Service Card

Catalog of Rubber Applications:

A fully illustrated, 72-page catalog from Hamilton Rubber Mfg. Co. provides extensive, detailed information on sizes, weights, applications, construction features and other material pertinent to use of the firm's lines of hose, belting, and other rubber products.

(Also reviewed in March)

Circle 306 on Reader Service Card

Ball Bearing Trolleys:

Catalog 2536 published by Link-Belt Company gives information on a new line of ball bearing trolleys for overhead conveyors. It also contains specification data for the selection of new trolleys or replacement of existing installations.

(Also reviewed in February)

Circle 307 on Reader Service Card

All-Weather Freight Car:

Booklet published by Evans Products Company points out the advantages of the new RB-DF all-weather freight car. The new car is said to protect lading from temperature extremes, eliminate bracing and stop damage claims.

(Also reviewed in February)

Circle 308 on Reader Service Card

Details On Hydraulic Truck Loader:

How to save man-equipment hours with the Lodal hydraulic truck loader is shown, with specifications, in a fully illustrated bulletin from Lodal, Inc. The equipment is said to be multi-purpose, of 3000 lbs capacity, suitable to load one truck or many.

(Also reviewed in March)

Circle 309 on Reader Service Card

Semi-Automatic Weighing Machines:

The Exact Weight Scale Co. has published literature which describes weighing machines for semi-automatic packaging, bagging, batching, compounding and feeding. Explains method of operation, operation of controls and various types of optional equipment. Also explains type of information required for ordering.

(Also reviewed in March)

Circle 310 on Reader Service Card

Uses for Impact Recorders:

Four-page folder describes different models of the Impact-O-Graph. It also sets out a number of specific examples of uses and applications in connection with packaging, transportation, handling, preventive maintenance and quality control. Available from The Impact-O-Graph Corp.

(Also reviewed in March)

Circle 311 on Reader Service Card

Shipping Hints:

Hinde & Dauch has published a revised edition of its booklet, "How to Ship More Economically in Corrugated Boxes." 24 pages in length, it explores all phases of economy inherent in the use of corrugated packaging. Discusses design, testing, storage, shipping room layout, packing, sealing, stacking and loading.

(Also reviewed in March)

Circle 312 on Reader Service Card

Hand Truck Also Lifts Loads:

Operating procedure, specifications and suggested applications are given in an illustrated data sheet covering the Easy-Lift Hand Truck. Produced by Concrete Machinery Ltd., this equipment serves both as a hand truck and lifting equipment—for placing many kinds of loads on trucks, bench racks and the like.

(Also reviewed in March)

Circle 313 on Reader Service Card

Data on Helical Gear Drives:

Full information on a new line of helical gear drives is provided in a 16-page Book No. 2651 just issued by Link-Belt Company. Design, engineering and application details of these in-line drives are given—along with cutaway views of double and triple reduction units.

(Also reviewed in March)

Circle 314 on Reader Service Card

Power Sweepers:

Bulletin available from Wilshire Power Sweeper Company describes the firm's complete line of power sweepers and offers a comparison on the cost of hand sweeping vs power sweeping.

(Also reviewed in February)

Circle 315 on Reader Service Card

Round Steel Strapping Machine:

How round steel strapping can be profitably employed is illustrated with typical examples in a booklet produced by Gerrard Steel Strapping Div., United States Steel Corp. Featured is the Model G round steel strapping machine which tensions, ties and cuts straps in one operation.

(Also reviewed in March)

Circle 316 on Reader Service Card

Packaging Brick:

Methods of unitizing brick with steel strapping are covered in detail in a new brochure issued by Acme Steel Products Div., Acme Steel Co. Profusely illustrated with pictures and packaging diagrams, it goes into methods currently employed (with statements of advantages and savings) and those contemplated by brick manufacturers.

(Also reviewed in February)

Circle 317 on Reader Service Card

Rack Fittings:

Literature from National Industrial Supplies Company gives details on pipe fittings of ductile iron. The fittings enable you to make-your-own racks with very little effort, using standard pipe.

(Also reviewed in February)

Circle 318 on Reader Service Card

Photo Series On Turbocharged Dozer:

An instructive, 20-page booklet includes some 50 photographs, arranged in film clip fashion, to illustrate the operation and correct application of the Michigan Model 180 Turbo-Dozer (product of Clark Equipment Co.) said to be the first rubber-tired dozer powered by a turbocharged diesel engine. The booklet is titled, "Turbo-Dozer Bulletin 157".

(Also reviewed in March)

Circle 319 on Reader Service Card

Engineering Data On Fittings For Wire Rope & Chain:

Complete information on fittings for wire rope and chain is given in a 28-page catalog issued by The Thomas Laughlin Div., American Hoist & Derrick Co. It includes dimensions and safety factors, is thoroughly documented with data and drawings as well as photographs.

(Also reviewed in March)

Circle 320 on Reader Service Card

Tape You Can Write On:

Folder offered by Labelon Tape Co., Inc., describes the new improved Write-on-it tape and features a number of the more popular applications. An actual sample of tape is affixed to the cover.

(Also reviewed in February)

Circle 321 on Reader Service Card

Lumber Unloading Time Cut 83 1/3%:

A job study, No. 155, offered by Towmotor Corp. shows how a Chicago lumber company now unloads its materials in 1/6th the time former manual methods required. Employing a fork truck and hydraulic roll-off attachment, the system has also cut loading time 50 percent, drastically reduced overtime costs.

(Also reviewed in March)

Circle 322 on Reader Service Card

Engineering Details on Shuttle-Drive Conveyors:

Stationary and portable models of hydraulically and mechanically driven Delpark Shuttle-Drive Conveyors are detailed in a 4-page bulletin issued by Industrial Filtration Co. The conveyor operates with any trough or trench, handles most kinds of bulk, including liquid-solid mixtures, and will elevate or lower materials.

(Also reviewed in March)

Circle 323 on Reader Service Card

Shipping Guide:

Marsh Stencil Machine Company has published a valuable handbook for the shipping department. In addition to general information on packing and marking shipments, it contains data on Marsh stencil cutting machines, electric tape machines, fountain brushes, stencil inks, markers, oil board and other products used in the shipping room.

Circle 324 on Reader Service Card

Packing Multi-Wall Valve Bags:

How different models of Auger-Matic bag packers can be used to fill multi-wall paper valve bags with different types of materials—from light and fluffy substances to coarse pellets—is described in a brochure available from E. D. Coddington Mfg. Co.

Circle 325 on Reader Service Card

Gearmotors, Motogears:

Link-Belt Company's new line of gearmotors and motogears is described in its 28-page book No. 2447, which includes complete selection data, together with features of construction, load classifications, dimension tables, overhung load ratings and mounting assemblies.

Circle 326 on Reader Service Card

Studies on Handling in Petroleum Industry:

Field reports now available from Hyster Company show how material handling savings are being made at Union Oil Co. and Cities Service Co. These case histories illustrate the use of lift trucks with grab attachment for palletless handling of as many as four drums at once.

Circle 327 on Reader Service Card

Conveyor Facts:

Catalog published by Lamson Corp. describes the pre-engineered conveyor in everyday language. Contains general description of uses and applications of various components. Written so that descriptions and illustrations are slanted toward "when to use".

Circle 328 on Reader Service Card

Industrial Layouts:

Folder from Chart-Pak Inc. says that its method of making industrial layouts is economical, saves time, and insures uniformity. The prefabricated materials consist of layout boards with grid lines, a wide range of draftsman drawn tapes, grid lined adhesive backed paper for making template, and accessories.

(Also reviewed in February)

Circle 329 on Reader Service Card

Fast Inter-Floor Movement of Men and Materials:

Construction and application features of the man-lift for rapid inter-floor transportation are given in a new bulletin, "Manlift", 07B6878B, from Allis Chalmers Mfg. Co. Diagrams, illustrations and descriptions show how personnel and packed materials can be safely moved between levels. Equipment can be furnished with steps and bag carriers alone or in combination. An automatic tripping device will discharge bags at desired levels.

Circle 330 on Reader Service Card

Industrial Trucks At Work:

The winter issue of the "Lever", published by Lewis-Shepard Products, Inc., features idea-provoking applications for narrow aisle trucks, walkies, dragline installations and coil lifters. One feature shows how a newspaper handles over a million and a half pounds of paper a day with six trucks.

Circle 331 on Reader Service Card

Shelters:

Prefabricated sections that can be quickly erected to provide unique, fast-handling storage facilities are pictured and described in literature available from Yard-Stor Shelter Co.

(Also reviewed in February)

Circle 332 on Reader Service Card

Packing and Shipping Problems?

Literature from The Stanley Works, Steel Strapping Division, tells about the complete and personal attention given to packing and shipping problems to insure improved packaging.

Circle 333 on Reader Service Card

All-Purpose Hose:

Literature from Manhattan Rubber Division, Raybestos-Manhattan, Inc. describes an advanced type of all-purpose hose which is suitable for use with air, oil, water and mild chemicals. Called Allflex, the hose is credited with having eight major advantages, including extremely long life and non-kinking.

(Also reviewed in February)

Circle 334 on Reader Service Card

Tough Floor Surfacing:

Plant Maintenance, Inc., offers data on Poly-Rock, a floor surfacing material which is said to be highly resistant to acids, oils, solvents and water. It also is said to be easy to apply.

Circle 335 on Reader Service Card

Gears:

Four page folder offered by Little Giant Products, Inc. pictures and describes precision gears for light and medium heavy industry.

(Also reviewed in February)

Circle 336 on Reader Service Card

Crane Classifications:

Ederer Engineering Company has made available a crane classification card which enumerates the five crane service classes as established by the National Electrical Manufacturers Association. It can be folded conveniently or used as a wall chart.

Circle 337 on Reader Service Card

Flexible Hose Lines:

Exceptional characteristics of the "666" hose assembly are explained in a new bulletin by Aeroquip Corporation. The detachable, reusable fitting designed for the hose represents one of its most outstanding features.

(Also reviewed in February)

Circle 338 on Reader Service Card

"Engineering Audits":

A 4-page folder from Designers for Industry, Inc., tells about the company's new service, known as "Engineering Audits", which is said to improve product quality, cut production costs, increase sales appeal and reduce inventory requirements.

Circle 339 on Reader Service Card

Blow-Out Proof Coupling:

Catalog No. 400, containing 28 pages, is available from Anchor Coupling Co., Inc., and it describes and illustrates the "Flanco" 4-bolt, split-flange coupling for high, medium, low and suction return applications. Only an automotive type wrench is required for installing.

Circle 340 on Reader Service Card

1000-Pound Portable Elevator:

A catalog sheet from The Oster Manufacturing Company describes its 112-inch, 1000-pound-capacity telescoping portable elevator. The unit features a battery-powered hydraulic lift.

Circle 341 on Reader Service Card

Specialized Tapes:

The T series of Polyken tapes is described in a brochure published by Polyken Products, Department of The Kendall Company. The tapes are designed for large volume users with specialized problems.

(Also reviewed in February)

Circle 342 on Reader Service Card

Data on Magnets:

Temperature effects on the permanence of permanent magnets is discussed in the current issue of Applied Magnetism, published bi-monthly by The Indiana Steel Products Co.

Circle 343 on Reader Service Card

Heavy-Duty Fork Trucks:

Bulletin 1328-A from The Baker-Raulang Company describes and illustrates the company's electric fork trucks with capacities of 7000, 8000 and 10,000 pounds. Features include: power steering, unobstructed visibility, readily-accessible components and three braking systems.

Circle 344 on Reader Service Card

Gummed Tape Tips:

"Gummed Tape Tips from Gilman" is a pocket-size folder published by Gilman Paper Company. It tells how best to use and to store gummed tape.

Circle 345 on Reader Service Card

Fiberglass Materials:

"Materials for Industry" is a 12-page booklet from Owens-Corning Fiberglass Corporation describing Fiberglass products for maintenance and supply. Included are photographs and sketches on insulations, reinforced tapes and waterproof papers.

Circle 346 on Reader Service Card

Power Truck Film:

A 27 minute material handling film produced by the College-Industry Committee on Material Handling Education is available from Ideal Pictures of Chicago. Titled "Powered Industrial Trucks," the film may be rented for \$2.50 or purchased for \$90.00.

(Also reviewed in February)

Circle 347 on Reader Service Card

Dumbwaiter:

The December issue of The Otis Bulletin gives details on the dumbwaiter—how it's made and how it has withstood the test of time. Other interesting stories in the issue concern safety and a "whale factory".

(Also reviewed in February)

Circle 348 on Reader Service Card

For Process Industries:

The process industries will be interested in an eight page bulletin offered by Fuller Company, subsidiary of General American Transportation Corp. Photographs and schematic drawings of various conveying systems, rotary compressors and vacuum pumps are contained in the literature.

(Also reviewed in February)

Circle 349 on Reader Service Card

Handles Bulk Chemicals:

How use of a fork truck reduced by 50 percent the number of trips required to transport bulk chemicals from storage to production is explained in Job Study No. 150 by Towmotor Corp.

(Also reviewed in February)

Circle 350 on Reader Service Card

Problems Turned Into Profit:

M-H Standard Company tells in a four page brochure how to turn overhead or bench conveyor problems into profit. The solution is said to be simple, economical and efficient.

(Also reviewed in February)

Circle 351 on Reader Service Card

Tape Ideas:

Numerous application suggestions for double-faced tapes are contained in a four page brochure published by Permactape Corporation. Titled "Horsepower vs. Stick", it provides the latest technical data on double-faced tapes and describes their versatility.

(Also reviewed in February)

Circle 352 on Reader Service Card

Explosion-proof Valves:

Technical bulletin offered by Automatic Switch Company concerns midsize 3-way solenoid valves. Explosion-proof and high pressure rating features are pointed out.

(Also reviewed in February)

Circle 353 on Reader Service Card

Truck Service Lifts:

If you're interested in speeding servicing and repairs of industrial trucks, catalog available from The Wayne Pump Company tells how to accomplish this objective easily and safely.

(Also reviewed in February)

Circle 354 on Reader Service Card

Speeds Bottle Returns:

Recent issue of the Rapid Handler tells how a conveyORIZED courtesy counter speed bottle returns, simplifying handling. The system has resulted in many advantages to the grocer and has improved customer relations, too. Details are offered by The Rapids-Standard Co., Inc.

(Also reviewed in February)

Circle 355 on Reader Service Card

Power Trucks:

The complete line of power industrial trucks is shown in a new catalog sheet published by The Elwell-Parker Electric Company. The literature also illustrates and describes a complete line of industrial truck attachments.

(Also reviewed in February)

Circle 356 on Reader Service Card

Transportation Equipment:

Many different types of standard and special transportation equipment are illustrated in catalog 2 offered by Easton Car & Construction Company. Included in the literature are off-highway trailers and truck bodies, mine and quarry cars, light industrial cars and trailers, and Cross-Bay motor driven transfer cars. Also shown are heavy duty industrial cars and intraplant trailers.

(Also reviewed in February)

Circle 357 on Reader Service Card

Fibre Cans:

R. C. Can Company has issued a two-color catalog on all kinds and sizes of fibre cans for the packing industry. In addition to illustrated examples of the containers, the catalog includes information on construction, waterproof and grease proof materials, shapes, closures and labeling.

(Also reviewed in February)

Circle 358 on Reader Service Card

Aggregate Plants:

Portable and stationary aggregate plants and crushers are shown on-the-job by Iowa Manufacturing Company in its bi-monthly publication.

(Also reviewed in February)

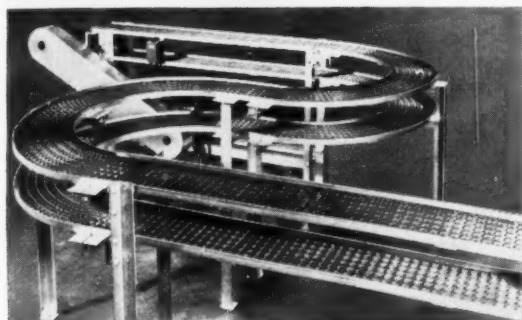
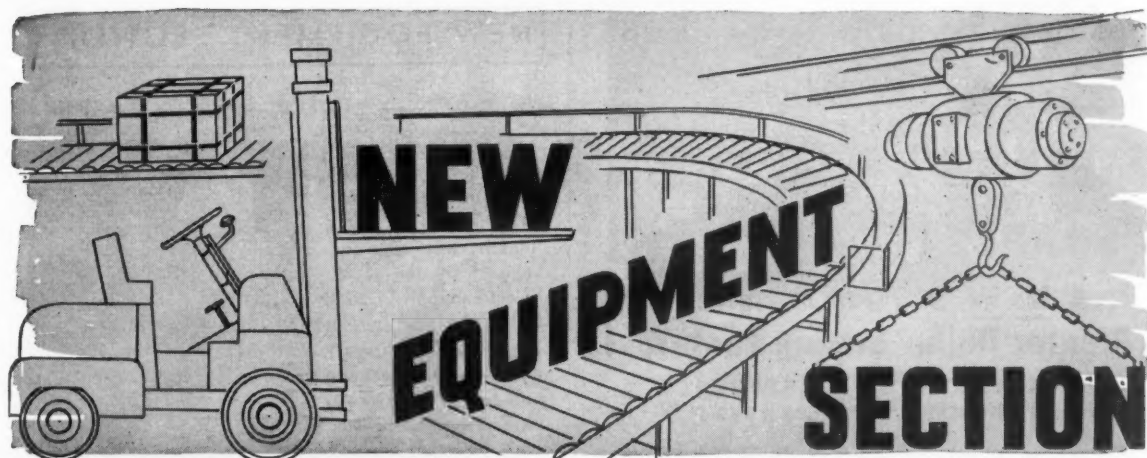
Circle 359 on Reader Service Card

Costs Cut 67 Percent

How one company cut costs 67 percent by installing a new material handling system is explained in Job Study 128 by Towmotor Corporation.

(Also reviewed in February)

Circle 360 on Reader Service Card



Flexible Wire Belt

A new metal belt designed for flexible conveyor systems, and especially for use where obstacles or plant layouts present material flow problems, has just gone into production at Ashworth Bros., Inc. Called the Omniflex, the belt is said to be able to make turns within $2\frac{1}{2}$ times its width. The belt is currently being made in widths from 4 inches to 4 feet, in mesh of $\frac{1}{2} \times 1$ inches.

Circle 423 for more information



New Line of Standard Wire Baskets

The Chas. Wm. Doepke Mfg. Co. has added wire baskets to its Nestier line of parts handling equipment. Standard sizes presently available range from 18" x 10" x 3" to 24" x 14" x 12". (Special baskets and inserts can be made to user requirements.) Regularly furnished in bright basic steel, they are also available in other materials, including stainless steel, and can be supplied zinc plated or plastic-coated.

Circle 424 for more information

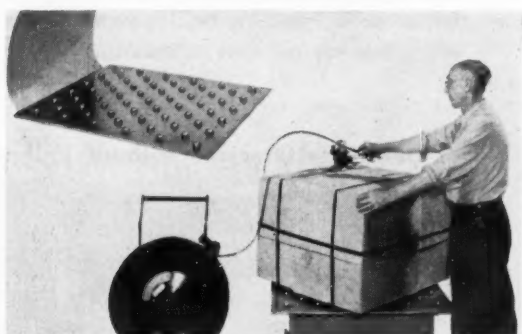
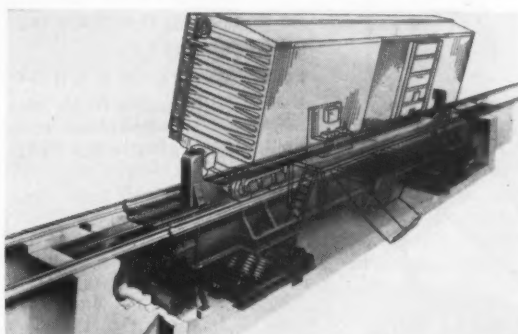


Table Top Aids Strapping

The Signode strapping table top contains 61 one-inch ball casters which permit operator to rotate heavy containers while he stands in one position. The manufacturer, Signode Steel Strapping Co., reports that the table top may be mounted on permanent or portable base or in conveyor lines. Casters extend $\frac{3}{4}$ " above the surface.

Circle 425 for more information



Unloading Cars By Oscillation

Grain and other free-flowing bulk materials can now be unloaded from railroad boxcars at the rate of four cars an hour according to the Link Belt Company. A new unit, known as the Kar-Flo, locks a standard loaded boxcar on a steel structure, oscillates it three inches at the ends of the car, and empties the load. The unit can be installed in a pit 7 feet 3 inches deep.

Circle 426 for more information

Circle 190 on Reader Service Card for more information

SOON

...FROM SERVICE SUPPLY

...A NEW 5 TON CRANE with Greater Dollar Saving Features!

- **STRENGTH**
- **STABILITY**
- **SIMPLICITY**
- **SAFETY**

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COMPLETE HYDRAULIC OPERATION • LONGER & HIGHER REACH • POWER STEERING • SOLID OR PNEUMATIC TIRES
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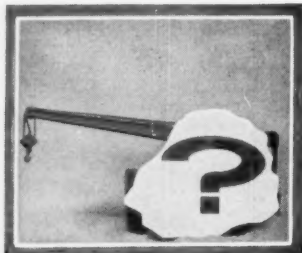
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Circle 64 on Reader Service Card for more information

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NEW EQUIPMENT SECTION

Gravity Feed Marking Machine

A new gravity feed marking machine, with triple the paint capacity of standard hand models, has been developed by the H. C. Sweet Company. Called the Florine-King, it has a 5 gallon capacity and makes lines around and between cars, machinery and stock, etc., with no mist. Curved, straight or skipped lines can also be made. The barrel is 6½ inches in diameter and full carriage width is 8 inches with rear support wheels removed.



Circle 427 for more information

Rotating Drum Attachment

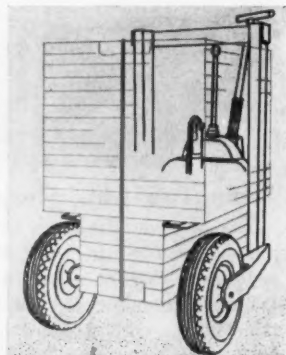
A new rotating drum handling attachment of 2000 pound capacity is announced by the Yale & Towne Manufacturing Company. The attachment is particularly effective where quick horizontal placement or stacking is necessary. Clamp arms are rubber coated and shaped to fit the drum. The attachment rotates through a 90 degree arc so drums can be picked up in a vertical position and stacked horizontally. Two drums can be handled in this manner. Clamp arms are 42 inches long and their range is from 17¾ to 71¾ inches.



Circle 428 for more information

Moves Building Materials Without Pallets

A new method of handling building materials such as brick, cinderblock, gypsum board, etc., in unit loads of approximately 1000 pounds—without the use of pallets or skid platforms—has been developed by Market Forge Company. Cutting costs of material handling in multi-floor building construction was the prime purpose of the development. The transporting unit is a straddle-type, lifting



FLOW

(hydraulic) and transporting (manual) unit capable of delivering materials from the point of origin, through the various stages of construction at the site—raising and lowering as required, and finally releasing at the point of delivery. Loads are unitized with steel strapping. This system is said to enable one operator to move by hand-power almost four times the amount handled by barrows in one-fourth as many trips.

Circle 429 for more information

Cutting Stencils by Punch Card



Companies who prepare invoices, bills-of-lading or shipping forms on punched-card automatic tabulating equipment can now also cut, in the same operation, a master stencil for addressing shipping cartons, labels or tags. Available from Weber Marking Systems, Div. of Weber Addressing Machine Co., Inc., are two types of master addressing

stencils which can be integrated with punch-card paperwork procedures. The Weber Continumatic Stencil (top photo) is for cutting independently of forms and the Weber Tab-On Stencil is for cutting as a by-product of other form preparation.

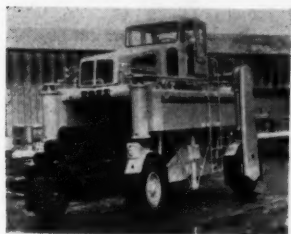
Circle 430 for more information

For Quick Starting

Quick easy starting on cold mornings is assured with the improved direct electric starting system, announces the Caterpillar Tractor Company. The attachments are for D6, D4, and D2 Tractors and No. 977, 955, and 933 Traxcavators. Each of the 24-volt systems now includes as standard equipment two ether starting aids along with necessary tubing for injecting ether into the intake manifold.

Circle 431 for more information

Hydraulic Straddle Carrier



A new, fully hydraulic 30,000 pound capacity straddle carrier has been produced by the Ross Carrier Division of Clark Equipment Company. Named the Series 93, it features 5-speed synchromesh transmission, 15

percent greater horsepower at the wheels, full hydraulic control of load-hooks and 4-wheel radi-arc steering. It replaces previous model Series 91 and 92. The carrier is of all-welded steel construction, and all components are designed for heavy duty. The Series 93 is available in nine models capable of carrying loads

A satisfied customer writes about Joy **LIMBEROLLER** Belt Conveyor Idlers:

"Early in 1955 we decided to try four Joy Limberollers on the No. 1 slope conveyor from the primary gyratory crusher in the quarry.

"This conveyor carries the product of the primary crusher set at about 5', on a 12 degree slope and running at about 450 feet per minute. Originally designed for 400 ton per hour capacity; there have been surge loadings of twice this amount.

"While the balance of the conveyor system is the enclosed gallery type; the No. 1 slope conveyor was not fully completed before the start of production season and consequently ran all year exposed to all kinds of weather.

"The Limberollers have carried a few hundred thousand tons of heavy stone with absolutely no maintenance. On the basis of this record we have placed repeat orders."

Richard Robinson

Richard Robinson, Treasurer
MASSACHUSETTS BROKEN STONE COMPANY



LIMBEROLLERS, at work on conveyor at Massachusetts Broken Stone Company.

The Joy Limberoller resists dust, abrasion, corrosion and material buildup. Resilient discs on a flexible steel cable conform to load and cushion the belt. Only two bearings are used and these are up out of the dirt zone. Get details from Joy Manufacturing Company, Oliver Building, Pittsburgh 22, Pa. In Canada: Joy Manufacturing Company (Canada) Limited, Galt, Ontario.

Write for FREE Bulletin 81-42



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For Air and Gas Compressors, Oxygen and Nitrogen Generators, Vacuum Pumps and Boosters, Conveyors, Fans, Electrical Connectors, Hydraulic Fittings and Hose Assemblies.

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Circle 116 on Reader Service Card for more information

Circle 27 on Reader Service Card for more information

Bathey VERSATILITY! TOTE AND STORAGE PANS

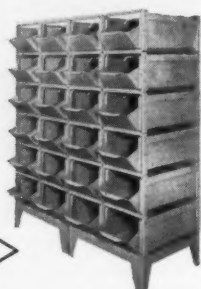
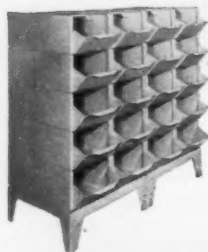
RACK THEM

WITH ADAPTERS

or

STACK THEM

WITHOUT ADAPTERS



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PARTS FASTER . .
EASIER . . .**



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Bins . . . We Engineer Complete
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DOUBLE SAFETY!** That's what
you get with Roebling Slings.
They are as strong as the rope.
No need to make allowances for
the inefficiency of splices.

What's more, these slings are
remarkably easy to handle. There
are no servings... wire ends are
permanently locked under the
tapered sleeve... no long balky
spliced section reduces useable
sling length. They come to you
ready for work... cost less than
most other slings; if desired, they
can be supplied in any multi-leg
sling or fitting combination.

Send for All-Purpose Sling
folder. John A. Roebling's Sons
Corporation, Trenton 2, N. J.



ROEBLING

Subsidiary of The Colorado Fuel and Iron Corporation

Circle 173 on Reader Service Card for more information
164

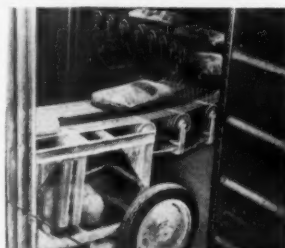
NEW EQUIPMENT SECTION

ranging from 54 to 66 inches in height and 52 to 64
inches in width. Power steering is optional.

Circle 432 for more information

Truck and Boxcar Loader

Hand trucking can be eliminated with this power driven box car or truck loader states the Power Curve Conveyor Company. The conveyor shuttles in and out of cars and trucks, discharging bags and packages at a desired level at the point of final stacking. A series of steel spring belts running over grooved rollers, the entire conveyor can be propelled snake-like, through any curve or doorway on a radius as low as 6 feet. As loading progresses, the unit is withdrawn under power without interruption of the flow materials. Effective length of the conveyor is unlimited, capacity is 30 bags per minute.



Circle 433 for more information

Adjustable Electric Vibrator

A new feature on its line of electric bin vibrators that allows variation of vibrating without changing weights is announced by the Cleveland Vibrator Company. This is made possible through two interleaving eccentric weights on each end of the vibrator. These vibrators can be used for packing, settling, and material handling applications. Coming in three models, the vibrators have a capacity of impact force ranging from 140 to 2250 pounds.

Circle 434 for more information

Coding Attachment for Packaging Machines

The Industrial Marking Equipment Co. now offers an automatic roll-leaf coding attachment for machinery designed to manufacture, fill, weigh and seal plastic packages, automatically. The attachment is exceptionally versatile and can be adjusted easily to imprint all sizes and quantities of products which are packaged in plastic packages. Photo shows typical coded package.



Circle 435 for more information

FLOW

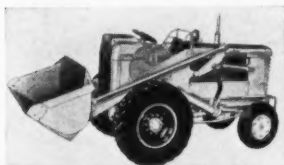
Flat Bed Belt Conveyor



A new, lightweight, portable, flat-bed belt conveyor, which handles bags or boxes and hugs the floor for easy loading, is manufactured by the Stone Conveyor Co. Designated Model F. P., it features 14-inch wide, non-slip belting, hydraulic lift, and is available in 12 to 24 foot sizes. Drive is roller chain and V belt, using 1/2 to 1 h.p. electric motor.

Circle 436 for more information

Front-end Loader for Confined Areas



With a large lifting capacity (1 1/8 yd.) and capable of operating in confined areas, a new front-end loader produced by the Tractomotive Corporation is called the TL-11 Tracto-Loader. It has front wheel drive with rear wheel power steering; a 3:1 torque converter and a clutch-type transmission which permits direction change without shifting gears. Heaped loads can be carried without spillage since the bucket can be tipped back to an angle of 41 degrees at the normal carrying height of 3 ft. At ground level, the bucket

Circle 181 on Reader Service Card for more information

ANOTHER FIRST FOR

SILENT HOIST KRANE KAR

FLUID DRIVE!



Write for New Illustrated
Bulletin No. 79D

Silent Hoist gave you KRANE KAR, the first modern Mobile Crane . . . Front-Wheel Drive . . . Stability without Stabilizers . . . Lifetime Front Axle . . . Automatic Safety Controls. And now Silent Hoist gives you FLUID DRIVE!

- ✓ Increases engine clutch life. ✓ Provides cushioned starting and acceleration.
- ✓ Eliminates overload shock damage to drive gears.
- ✓ Speeds operation. ✓ Cuts maintenance drastically. ✓ Prolongs tire life.

Ask about the New Lease-a-KRANE KAR - Plan
... 1 to 3 Year Lease with Option to Purchase

KRANE KAR Swing-Boom Industrial Truck Crane . . .
1 1/2, 2 1/2, 5, 10, 12 1/2 Ton Cap.



SILENT HOIST & CRANE CO.

Pioneer Mfrs. of Heavy-Duty Materials-Handling Equipment
888 63rd Street, Brooklyn 20, N. Y.



If you think Barber-Greene
makes only BIG conveyors...

you haven't heard of the...



375 TRANSFER CONVEYOR

- ★ lengths from 8'
- ★ widths 18", 24" and 30"
- ★ handles almost any bulk material

NEW FOLDER

... shows how you
can figure your own
horsepower and
belt width in a
minute.



see your B-G distributor or write

Barber-Greene

AURORA, ILLINOIS, U.S.A.

Circle No. 41 on Reader Service Card
APRIL, 1956

CYCLONE BELTS can smooth out your production problems!



USS CYCLONE METAL CONVEYOR BELTS

SPIRAL WOVEN
FLAT WIRE • FLEX-GRID

Should your present processing belt system be unsatisfactory, or if you plan installing a belt system in the future, be sure to check into Cyclone Processing Belts. Our belts are available in carbon, alloy and Stainless Steels in many designs and sizes. Cyclone Belt production lines are famous for smooth operation and long service with minimum maintenance. Find out how a Cyclone Processing Belt can smooth out your production worries. Send for our fully illustrated catalog No. 5. There's no obligation for this wealth of information.

CYCLONE FENCE DEPARTMENT
AMERICAN STEEL & WIRE DIVISION, UNITED STATES STEEL CORPORATION
WAUKEGAN, ILLINOIS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

CLIP AND MAIL

Cyclone Fence
Dept. A-46, Waukegan, Ill.

Please send me, without obligation, a copy
of your catalog No. 5 on Cyclone Processing Belts.

Name

Company

Address

City State



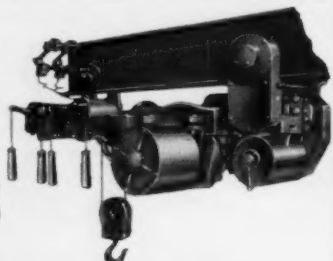
UNITED STATES STEEL

Circle No. 10 on Reader Service Card for more information

Circle 67 on Reader Service Card for more information

ELECTROLIFT

WORM DRIVE HOISTS



keep materials on the move

ElectroLift Worm Drive Hoists are designed for year-after-year operation with top performance and efficiency. Their design and construction assure safe, quiet, speedy action for uninterrupted

ed flow of materials. ElectroLift offers a selection of hoisting speeds, height of lifts and controls in capacities up to 10 tons. Consult your ElectroLift representative listed in the telephone directory.

ELECTROLIFT

3792

ELECTROLIFT, INC., 204 Sargeant Ave., Clifton, N. J.



For your every industrial need there is a Bronco Wheel designed to fit the requirements... built to give you longer service... priced to save you money. Only with Bronco do you get "featherweight" aluminum construction that will withstand the toughest shocks and impacts combined with the exclusive Bronco bonding process that prevents tire separation. For every industrial purpose, Bronco Wheels will give you more miles for your money.

SPECIAL SERVICE WHEELS

In addition to the wide range of standard Bronco spoke or disc wheels, the Bronco line includes Special Service Wheels with tread and bearings to meet specific conditions.



Write today for illustrated brochure showing the full line of Bronco Wheels and Bearings.

BRONCO PRODUCTS CO., 717 Stanford Ave., Los Angeles 21, Calif.

Circle No. 40 on Reader Service Card for more information

166

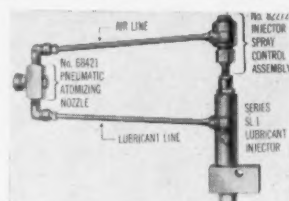
NEW EQUIPMENT SECTION

can be tipped back 22 deg. Maximum clearance under the hinge pin when dumped is 10 ft. 3 in.; at this dumping height, reach is 2 ft. 7½ in. With bucket in carrying position, the truck, with overall length of 15 ft. 4 in., can turn a radius of 12 ft. 3 in. Power can be either a 63 HP four cylinder gasoline engine or a 77 HP six cylinder diesel. With the diesel model, a 12 volt electrical system is provided.

Circle 437 for more information

Spray Mist For Centralized Lubrication

A new device for automatically applying a controlled, pre-measured quantity of mist lubrication on movable and non-movable machinery parts is produced by the Lincoln Engineering Company.



According to the manufacturer, some of the prime benefits of the MistOmatic Valves are: positive, uniform and automatic lubrication without waste; no spoilage resulting from drippage; conservation of man-hours; and reduction in fire and accident hazards.

Circle 438 for more information

Tiny Padded Shipping Bag

Jiffy Mfg. Co. nows makes Jiffy Padded Shipping Bags which measure only 4" x 3". They are reported to be ideal for shipment of small objects such as machine accessories, jewelry or hardware. They have the characteristic features of all Jiffy Bags, such as built-in cushioning, strong kraft on the outside and inside, serrated edges and adaptability for closure with gummed tape or staples. They weigh less than one ounce each. Free samples are offered.

Circle 439 for more information

Steel Shelf Carts

A new line of all-steel shelf carts designed to provide an improved, more efficient system in transporting parts in warehouses, stores, plants, etc., is announced by the Bernard Franklin Co., Inc. The carts feature two-way reversible steel shelves, 1¼ by 1¼ by ⅝ inch angle legs, ball bearing swivel casters, tubular pusher handle, and are available in a variety of types and sizes.



Circle 440 for more information

FLOW

Unit Adds Lift

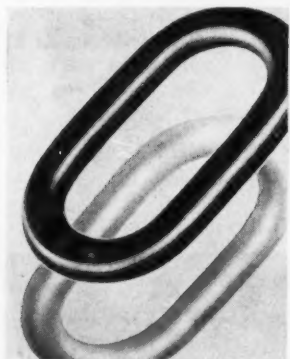


Three extra feet of stacking height can be added with a new fork lift attachment, says the Kugler Development Corporation. The unit, called the EF-4 is claimed to be invaluable for extending the reach of present trucks at low cost. It does not interfere with normal truck operation and is quickly installed on the load pin arm of the

present equipment. The unit is available in a standard model, weighing 175 pounds and extending 5 inches from the carriage. Capacity is 10,000 pounds.

Circle 441 for more information

Safer Master Link

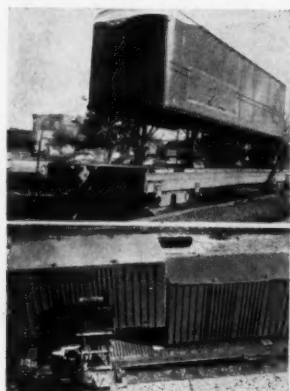


A master link for use with industrial slings, called the Shaped Section Master Link, is said to hold its form under loads and stress up to 18 percent greater. The Link is manufactured by the American Chain Division of the American Chain & Cable Co., and the company asserts that the master link provides greater safety to

men, machines, and materials. It is made of high strength steel alloy, and the components are produced in sizes from 1/2 to 1 3/4 inches.

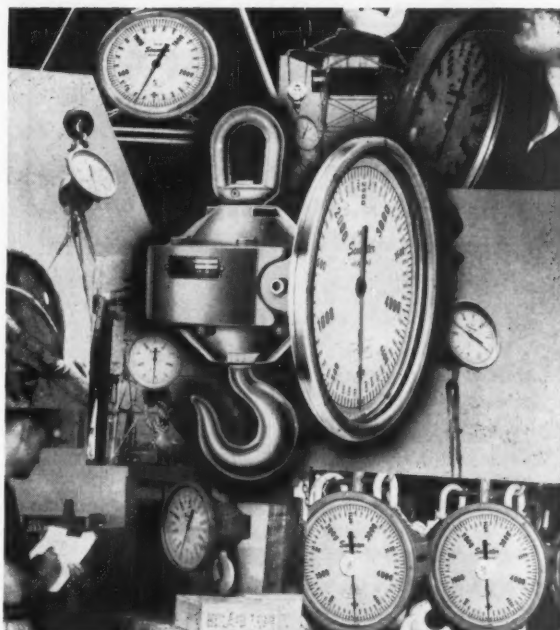
Circle 442 for more information

Multi-Use Rail Car



A completely new design of railroad car which can be converted to almost any type of freight car has been introduced by the American Car and Foundry Div. of ACF Industries, Inc. Known as the ADAPTO, an all-in-one basic car, it is a low-cost, interchangeable, lightweight car said to have superior riding qualities. Equipped with stand-

ard couplers, its weight and its cost are only about one-half that of standard types of freight cars with



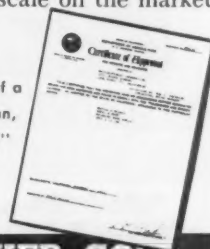
CERTIFIED ACCURACY!

Martin-Decker's SU-20 Sensater hook scale has been approved for certification by the State of California Bureau of Weights and Measures. This is the first time a heavy-duty hydraulic hook scale of this kind has ever been accurate enough to pass the rigid state or U.S. specifications. California uses *National Bureau of Standards Handbook H-44* as its guide, and its requirements are among the most stringent.

As a result of the California action, similar approvals of the Sensater by other states will be forthcoming. This is great news to many industries whose operations require certified weights plus the speed and handiness of weighing items as they are lifted.

The SU-20 Sensater is manufactured in four capacities from 2500 to 20,000 pounds. Write the Martin-Decker Corporation, 3431 Cherry Ave., Long Beach 7, California, and learn why the Sensater is the most rugged, versatile, and *certainly* the most accurate hydraulic hook scale on the market today. Dept. N-14.

When you're considering the purchase of a hook scale, ask the salesman, "Can this scale be certified?"



MARTIN-DECKER CORP.
HOME OF THE WEIGHT INDICATOR — LONG BEACH, CALIFORNIA

Circle 138 on Reader Service Card for more information

BUILT TO LAST STEEL BOUND SKID PLATFORMS



RENEW BROKEN DECKS
IN MINUTES

CAPACITIES
UP TO 10 TONS

The Lanham "Re-Nu" top skid is designed to fit your job. Easy replaceable platform deck. Plain bolted construction of heavy steel angles with countersunk head bolts. Can be equipped with end racks, armored ends, shelves, stake pockets, crane hooks, or rounded corners, for all special purpose skid work.

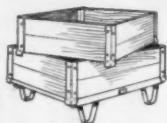
Write for complete literature.



COWAN DESIGN
PLATFORMS



FEATHERWEIGHT
PLATFORMS



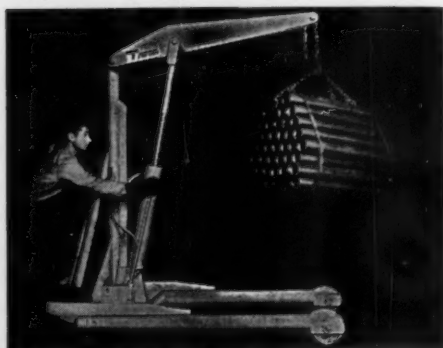
SKID-BOXES
SECTIONAL BINS

THE LANHAM SKID CO.

Division of Thomas Truck & Caster Co.
606 on the Mississippi River, Keokuk, Iowa

Anything You Can Hang on a Hook Can Be Easily Handled by a RUGER CRANE

Move heavy, bulky loads easily, quickly — with one man and a Ruger Hydraulic Floor Crane. Capacities from 1/2 to 3 tons.



SUBSTITUTE FOR AN ELEPHANT[®] RUGER CRANES

601 West Fourth St.

UHRICHVILLE, OHIO



SEND FOR 1955 CATALOG
Shows the complete Ruger 1955
line of Floor Cranes. Gives full
specifications. Truck mounted
hydraulic cranes also available.
Capacities 1/2 ton to 2 tons, write
now for your copy.

Circle 190 on Reader Service Card for more information
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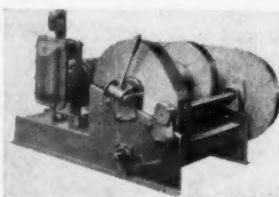
NEW EQUIPMENT SECTION

comparable equipment. The basic "all-in-one" design lends itself to box, container-hopper, gondola, tank car, hopper car, caboose or piggy-back service. This is achieved by the interchange of removable superstructures on the car's platform which has automatic leveling valves to keep the platform loading height constant, regardless of load.

Circle 443 for more information

Drum Type Car Puller

A new and improved drum type car puller with starting line pulls from 13,500 to 50,000 pounds and running pulls from 5500 to 20,000 pounds is announced by Clyde Iron



Works, Inc. The bed is heavy steel plate construction. An easy actuated jaw clutch enables the drum to be disengaged and run free when pulling out cable. All shafts contain anti-friction bearings; a fluid coupling on the motor shaft eliminates shock loadings.

Circle 444 for more information

No-Clog Conveyor Curves

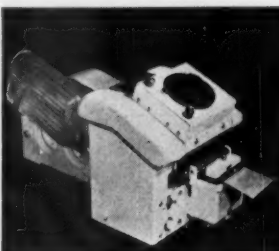
Congestion and slow-downs are eliminated by means of 90 and 180 degree chain driven power roller conveyor curves being offered by Harry J. Ferguson Co. The units use sprocket teeth attached to the conveyor rollers to eliminate slip, thereby maintaining an even flow of material on the conveyor lines. The Ferguson power curves can be driven from a 1/2 hp motor or conveyor head shaft, and are available with rollers set high or low as required.



Circle 445 for more information

Tape Dispenser for Food Industry

Because there is an almost universal insistence that all equipment to be used in food plants be colored white, Marsh Stencil Machine Co.'s Dial Tapers (dial operated) and Twin-Tapers (button or remote automatic operated) are now available in sparkling white. Both machines have built-in electric water heater and



FLOW

thermostat for controlled water temperature and both insure against waste tape by giving accurate control of length. They will dispense tapes from one to three inches from rolls up to nine inches in diameter.

Circle 446 for more information

"Pressure-Pak" Wirebound



American Box Co. reports that a new "Pressure-Pak" wirebound crate which it has developed has lopped off weight and costs by a good 65% for a shipper of farm

implements. Weighing only 55 pounds, it replaces a former container which weighed 150 pounds. It features a modified, specially engineered, "Pressure-Pak" interior set-up in an easy-access, wrap-around mat using light wooden cleats and veneer slats bound by steel wire. Loops, permit closure and re-opening.

Circle 447 for more information

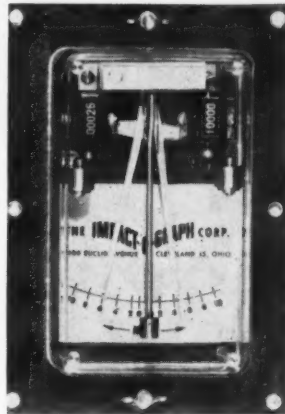
Traffic Safety Mirrors

Safety mirrors which can be used in aisles of large buildings and industrial plants, and on loading platforms, where blind corners, cross aisle intersections, entrances and exits present a safety problem, are man-

ufactured by Silver Troy Company. The safety mirrors are made in various sizes and are available in convex or flat glass; are adjustable and can also be used to see in and around production machinery.

Circle 448 for more information

Shock Recorder Counts Impacts



Impact-O-Graph Corp. has re-designed its Yard Recorder and has now placed specially calibrated counters on it. Purpose of the counters is to give a record of number of over-speed impacts experienced by a vehicle. Pointers on the instrument indicate maximum shocks received from front or rear. Designed primarily for use on freight cars, the Yard Recorder can be

utilized to advantage in studying blocking and bracing methods. It enables one to properly evaluate presently used methods with new methods. The instrument is small, yet easily readable. It weighs about two pounds.

Circle 449 for more information

MATERIALS HANDLING EQUIPMENT TO FIT YOUR SPECIFIC NEEDS

FAB-WELD will engineer, design and build special welded steel equipment to achieve for you the greatest saving in time, labor, space and protection of your products in transit. Representatives in all principal cities. Address our Materials Handling Division for full details.



Trailer Truck



Pallet Racks

FAB-WELD
CORPORATION

3656 Richmond Street
Philadelphia 34, Pa.



Circle 75 on Reader Service Card for more information

APRIL, 1956

Why pay more?

Specify the RACK
TURNABOUT®
ADJUST-A-FORK
HYDRAULIC LIFT TRUCK

only **\$350** for
complete truck



with
interchangeable
forks

featuring Overload Safety Valve!

The low cost, high quality Turnabout will save you many dollars in your pallet handling operations. Interchangeable forks supplied in five standard lengths — 30", 36", 40", 42" and 48". Also available in 54" and 60" lengths, if desired. Capacity: 2,500 lbs.

RACK

Write for Bulletin today!
Hydraulic Equipment Corp.

131 Sixth St., Connellsville, Pa.

Circle 163 on Reader Service Card for more information

169

Circle 28 on Reader Service Card for more information

BELT **VERSA-VEYORS**

THE VERSATILE COMPLETE LINE OF CONVEYORS

MODEL R



Heavy-duty Versa-Veyor speeds up handling, slows down costs. Tops for moving bags and boxes. Moves easily from one job to the next. 13' to 19' lengths with undercarriage.

SERIES S12A

Low-cost Versa-Veyor for moderate loads. Light weight assures portability, makes it ideal for truck loading and use over stairways. 11', 13' and 15' lengths. Strong, aluminum box-type frame.



THE BELT CORPORATION

7204 Stahl Rd.

Orient, Ohio



Lansing standard or custom built Industrial Trailers will give you efficient service—units that have been in service for over 30 years are still going strong.

Write today for new 24-page Lansing Floor Truck Catalog

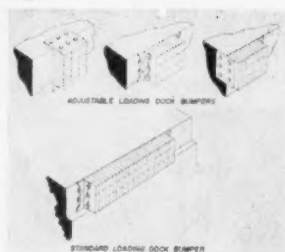
THE LANSING COMPANY
LANSING, MICH.

Circle 126 on Reader Service Card for more information
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NEW EQUIPMENT SECTION

Loading Dock Bumpers

Loading dock bumpers designed to minimize loading dock and truck damage are now being manufactured in three sizes by Bumpers, Inc. Called Flex-O-Loading Bumpers, they are constructed of reversible rubber coat-

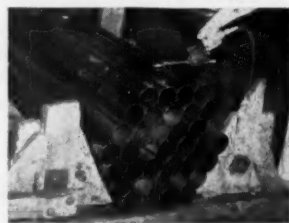


ed fabric and are widely used among truckers and warehousemen to solve the rising repair costs of vehicles, dock timbers and facings, says the manufacturer. The fabric is resilient even when frozen, with ice being no problem. The bumpers come in four sizes with standard lengths of 14 and 36 inches, and a standard thickness of 4½ inches. One pair of bumpers is adequate for any single dock.

Circle 450 for more information

Strap-Stretcher for Irregular Packages

A pneumatic stretcher, the PNK, specially designed for use on round or irregular packages where strapping surface is limited is announced by the Brainard Steel Div. of the Sharon Steel Corp.

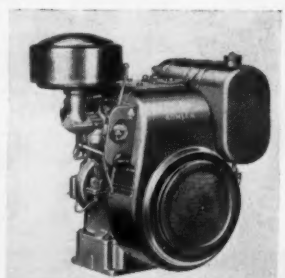


It is claimed that the new stretcher reduces operator fatigue by controlling tension by air pressure. It was developed for production line applications using 5/4-inch and 3/4-inch tensional strapping. Weight of the PNK stretcher is six pounds, 11 ounces.

Circle 451 for more information

Heavy Duty Engine

A new short-stroke air-cooled gasoline engine designed for heavy duty farm, construction, and industrial use, is being marketed nationally by the Kohler Company. Called the K330, the new engine delivers 12.5 h.p., and it will be made available in a number



of optional models. Features of the short-stroke engine are: over 30 percent reduction in engine friction, increased piston life, increased working power, and reduction in fuel consumption, says the manufacturer. The K330 has a range of 23.8 to 20.3 foot pounds of torque, piston displacement of 33.6 cubic inches.

Circle 452 for more information

FLOW

Portable Liquid Container



A rubber tank container for storing and transporting liquids has been developed by the Aviation Products Division of the Goodyear Tire and Rubber Company. The portable container, called a Rolli-Tanker, can be rolled over ground, floated in water, and dropped without bursting. Made with nylon cord and tread stock construction, with fuel-proof inner lining, the containers are mounted on hubs and axels, are easy to handle, have high flotation characteristics. Due to their pliable construction, the tankers can be towed singly or in tandem over rough, rocky, swampy, and sandy terrain with ease. The containers can be built in a range of sizes. Tests have been made on sizes up to 3½ x 5 feet and weighing 40 pounds deflated—with a loaded capacity of 250 gallons.

Circle 453 for more information

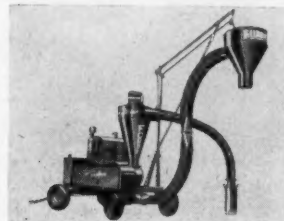
Makes, Drives Three Nails Per Second



Making its own nails from a coil of knurled wire, the Sparton Auto-Nailer countersinks and clinches them in one operation to make strong and sturdy boxes or panels. The machine operates at the rate of three nails a second under one thousand pounds pressure to make a tight bond between the cleats and plywood. This efficient method of nailing is an adaptation of the principle of the shoe nailer which has been used for many years. No adjustment is necessary when changing from one size or design to another. If complete boxes are assembled, the clinching table is lowered to the desired depth. Length of nails is adjusted easily from ½ inch to 1½ inches. Manufacturer is Auto-Nailer Co.

Circle 454 for more information

Pneumatic Handling



With pneumatic handling of grain and other fine materials, costs can be cut, and unusual problems in loading, unloading, and salvage can be solved. The manufacturer, Myers-Sherman Company says the new Fords

Pneumatic Grainveyor will move granular, flake and powdered material for distances up to 300 feet. The

APRIL, 1956

Move it or Stack it



with **Brusco** HANDLING EQUIPMENT



NO. 600 BRUSCO-MATION PARTS BOX PUTS AUTOMATION INTO PARTS HANDLING

For years Brusco Boxes have helped set the pace in the trend to "Automatic Flow".

The No. 600 Brusco-mation Box is just one example of really doing a parts handling job in industry. In this case Brusco design was applied to supplying operator with a steady flow of parts at his working level. The result was greatly reduced handling costs and speeded production. Brusco engineering and design can also solve your parts flow bottle neck and in many cases increase flow in an already efficient production line.

Also manufacturers of:

BOXES - SKIDS - PALLETS - RACKS

BRUSCO self dumping hoppers

When requesting price information, please give dimensions, load capacities and quantities.

Brusco

HANDLING EQUIPMENT

BRUMMELER STEEL PRODUCTS CORP.

1410 Ionia Ave., S. W., Grand Rapids, Mich.

Circle 36 on Reader Service Card for more information

NEVER OBSOLETE



ADJUSTABLE STORAGE RACKS
Instantly Interchangeable for
PALLETS • BULK • SKIDS • DIES



The secret is the "FLOATING WEDGE LOCK"



Patents pending
New, different assembly principle—No tools, nuts, bolts, erection welding or special labor!

As your needs change — so do STURDI-BILT Adjustable STORAGE RACKS!

This revolutionary new storage rack is designed to handle pallets, skids, dies or bulk interchangeably in a matter of seconds. Not only do you have new freedom in types of storage, but with on-the-spot respacing of the vertical openings, you can handle more efficiently any daily storage fluctuations or demands. One or two pallet width openings. Heights to fit your needs — and they stack for added utility.

WRITE TODAY for more information about the only system that plans for the future!

A few territories available for qualified Materials Handling Dealers

Sturdi-Bilt ENGINEERING CO. INC. Dept. F-4
2501 Peterson Ave., Chicago 45, Ill.

Pack, Inspect and Assemble
with
ISLAND UNITIZED CONVEYOR TABLES



SPEEDS UP PRODUCTION

An all-purpose portable belt conveyor, work table and straight-line production system, with and without side leaves. Available up to 100 ft. long in 10 ft. easily assembled sections.

PORTABLE OR STATIONARY

The perfect mechanized table for assembly, inspection and packaging operations. Available in steel or stainless steel with fixed or variable speed.

FREE!

ISLAND EQUIPMENT CORP.
27-01 Bridge Plaza North
Long Island City 1, N. Y.

Please send Bulletin 1P-1 on
Island Unitized Conveyor Tables. Dept. F-4

NAME _____

ADDRESS _____

CITY _____ STATE _____

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172

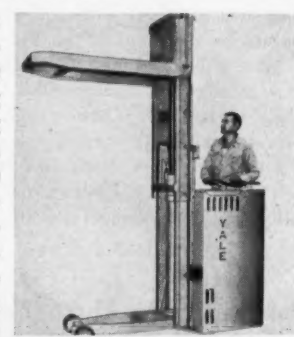
NEW EQUIPMENT SECTION

Grainveyor sucks up the material wherever it is and floats it at high speed to the deposit point. Capacities range from 800 to 2000 bushels of grain per hour. The unit is driven by either a gasoline engine or an electric motor, and can be operated by one man.

Circle 455 for more information

High-Lift For Narrow-Aisle

A high lift platform truck has been developed by The Yale & Towne Manufacturing Company for stacking skids and skid bins in narrow-aisle storage areas. The truck, a "Warehouser," is electric powered, a stand-up model, and designed to operate in aisles of less than eight feet width. Capacity is 4000 pounds; overall height, 68 inches; and maximum platform height 96 inches. The Warehouser line comprises very short, electric, standup trucks for use in installations where restricted operating room, low floor loading, and moderate travel and distances are of great importance.



Circle 456 for more information


Surface Protective Resin

A new protective resin, called Stonhard Stontreet, is announced by the Stonhard Company. The surface resistant coating has a pitch base and can be used for protecting asphalt or blacktop macadam, or concrete surfaces. It protects surfaces against gasoline and oil drippage, atmospheric acids, smoke, fumes, alkalies and brines, says the manufacturer. The liquid comes complete in one container ready for use.

Circle 457 for more information

Airport Baggage Handling

A new truck for handling baggage at airport terminals is announced by Lewis-Shepard Products, Inc. The truck, having a 1000 pound load capacity, has a ballbearing fifth wheel steer and can be towed either manually or with a tractor. The trucks slatted wooden deck is 96 inches long x 36 inches wide and 26 inches high, having a 6 inch side railing and an 18 inches front and back railing. Under the deck is a waterproof compartment for storing a

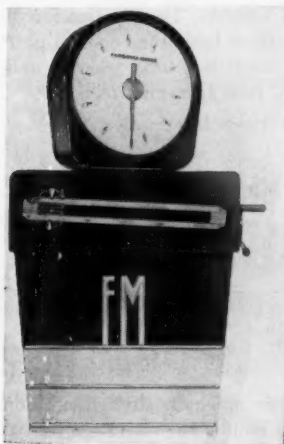


FLOW

protective tarpaulin. An automatic front wheel brake applies when the pulling handle is raised, releases when it is in towing position. Semi-pneumatic tires are 16x4. Greasing of bearings in wheels is kept to a minimum with sealed-in type bearings.

Circle 458 for more information

Exact Weighing

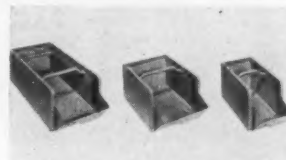


A new line of Floaxial cabinet dial scales engineered to insure the exactness of weight and eliminate possible human errors has been introduced by Fairbanks, Morse & Co. Exclusive features incorporated into the Floaxial design are: direct reading dial, full swivel head, cage type central column construction, and a controlled-speed dash pot. These features make possible improved weighing accuracy, multi-directional dial reading, better alignment of weighing components, and it adjusts for shock and oscillation automatically. At present, the Floaxial dial scales are available in 36 models ranging in total

chart capacity from 500 pounds by 1/2 pound graduations to 120,000 pounds by 20 pound graduations.

Circle 459 for more information

Parts Storage Containers



The Bathey Mfg. Co. announced the addition of 3 new containers to its present line of parts storage units. The new trays are designed for greater flexibility and arrangement of loose material in warehouses, stock-rooms, and assembly operations. All corners and edges of the new containers are double reinforced for strength and long life. Two embossed runners nest snugly against the inside edge of the double top shoulders to provide safe, secure stacking. To add to its versatility, various handle arrangements are available. Container sizes range from 14 to 23 in.

Circle 460 for more information

Eliminates Radio Chatter

An improved electronic system designed to eliminate distracting chatter in two-way radio communications has been produced by General Electric Co. Chatter has been overcome by incorporating electronic tone selecting equipment in the radios. This turns mobile receivers on individually, thus allowing communications

NOLAN ONE-MAN CAR DOOR OPENER



Opens Any Box Car Door in 20 Seconds or Less! \$37.50 EACH

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Circle No. 152 on Reader Service Card
APRIL, 1956

Overcoming Headroom Limitations with a LOW HEADROOM TROLLEY EUCLID CRANE



• Rapid growth of a progressive company necessitated the installation of a larger, more powerful crane.

Headroom limitations prevented the use of a conventional crane without expensive lowering of the runway which would have restricted the working height under the hook.

Euclid engineers solved the problem by incorporating standard units

into this compact yet accessible low headroom trolley.

Regardless of your needs for material handling equipment a standard or specially designed Euclid Crane or Hoist will meet the requirements satisfactorily.



Write for Literature

THE EUCLID CRANE & HOIST CO.

1362 CHARDON ROAD

CLEVELAND 17, OHIO

Circle No. 72 on Reader Service Card for more information

JAKES

America's finest terminal-type trucks
FOR CONVEYOR OPERATION
FOR MANUAL OPERATION



Above: A typical installation of Jakes Conveyor Trucks for ASSOCIATED TRANSPORT, Inc.

FEATURES OF JAKES TERMINAL TRUCKS:

- ★ Sturdy all-welded construction
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- ★ Rack holds small packages
- ★ Hardwood replaceable deck
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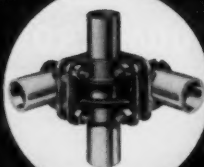
Write, wire, or phone today for full information on all types of JAKES TRUCKS and what they mean to your operation.

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Racks at lower cost



TUBE-STRUT

The "one-clamp" system (using your own pipe or tubing) that builds every type of storage rack: pallet, drum, bar stock, etc. Versatile, fast, strong. Ask your distributor about the easier, faster Tube-Strut method—or write.

TUBE-STRUT DIVISION
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Circle 197 on Reader Service Card for more information
174

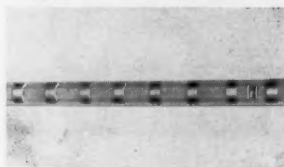
NEW EQUIPMENT SECTION

with any radio-equipped vehicle without bothering other units in the network. Called "Personal Channel", the system allows the same range of operation as standard two-way radio systems. For application to standard equipment only three basic tone control parts are required. They are dispatcher tone selector unit, tone receiver chassis, and tone transmitter chassis.

Circle 461 for more information

Converts Belts to Magnetic Conveyors

Converting existing belt conveyors to permanent, non-electric conveyors can now be done by simply adding the Eriez Magna-Rail unit. This magnetic conveyor is designed in two magnetic strengths. Model MCR-3112 is designed to handle such average ferrous objects as can covers, caps, small stampings, etc., at speeds up to 85 FPM. Model MCR-316 is designed to handle, at greater speeds, more difficult products, odd-shaped objects, where contact with the belt is small, where non-magnetic and magnetic components are involved and for handling tangled masses or objects. The magnetic conveyor can move objects up inclines as steep as 75 to 80 degrees. Magna-Rails are completely non-electric, no outside power is required and no maintenance is needed, according to the manufacturer, Eriez Mfg. Co.



Circle 462 for more information

All Weather, Odorless Tape

Renecel, a cold-proof, odorless adhesive has been developed by Hudson Pulp & Paper Corp. The end-result of three years of research and testing, Renecel will be used in the manufacture of Hudson gummed tapes. It is said to seal quickly and effectively with cold water, in cold rooms, on cold cartons.

Circle 463 for more information

Accessories For Handling Open-Center Loads

Two attachments available for Towmotor lift trucks are intended to provide high speed and efficiency in handling all types of open-center loads. Called the Ram and Unloader, the accessories are offered as optional equipment. The Ram is a pole-like attachment suspended horizontally from the fork support bar of the lift truck and controlled by the standard lifting and



FLOW

tilting mechanism of the truck. The Unloader, which works in conjunction with the Ram, is a powerful, hydraulically controlled pusher device which removes the material from the Ram. High utility of storage and carrier space is said to be assured when these accessories are employed. The Ram is interchangeable with standard forks, and the unloader is constructed so not to interfere with the normal operation of the lift truck.

Circle 464 for more information

Easier-Rolling Trolley



A new easier-rolling 1000 pound hoist trolley was introduced by the Anchor Steel and Conveyor Company. The trolleys are designed for easy handling on straight or curved monorail systems. Maximum loads can be easily pushed by hand due to high grade ball bearing trolley wheels and hardened guide rollers. These trolleys are used with hoists, tool balancers, or welding transformers, or for bridge crane end trucks.

Circle 465 for more information

One Man Drum Handling

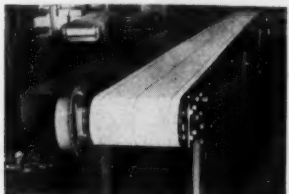


A new improved drum lift which enables one man to handle steel drums (55 to 30 gallon) fibre drums (18 to 23 inch diameters), and acid carboys (13 gallon) has been announced by the Sterling Fleischman Company. The Drum Lift is rated at 750 pound

capacity, and has the lifting power supplied by a foot-operated hydraulic jack. The drums may be raised to a height of 53 inches and may be stacked two-high vertically. The company states that an easy lock girdle which grips the drum firmly, permits 360 degree drum rotation safely and easily; brakes on the drum lift arms hold the drum at any angle.

Circle 466 for more information

Light Duty Belt Conveyor



The Island Equipment Corporation announces the availability of a new light duty, side bed, belt conveyor. The unit is available in belt widths of 8 to 12 and 16 inches, and in lengths of 10 to 70 feet maximum (depending on load and speed), in multiples of 10 feet. The conveyor is powered by a right angle gearhead 1/4 HP

**ENCLOSED CLUTCH
CAN'T
STICK OR FREEZE**

Ever!



WINCHES

Put an advanced Gar Wood 7000 lb. winch on your utility truck and you'll put an end to clutch trouble. All moving clutch parts are *fully enclosed and running in oil* . . . can't stick, freeze or rust because weather and dirt can't get in!

You'll put an end to the hazard of sudden slippage, too. Gar Wood's self-energizing safety brake and time-tested back-draft clutch give your operator much safer control of the load.

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MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS
Circle 112 on Reader Service Card for more information

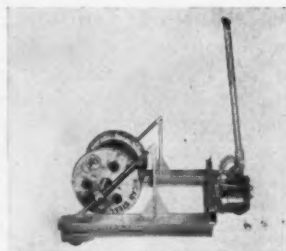
NEW EQUIPMENT SECTION

1-60-110 volt motor for fixed belt speeds of 25, 37½ or 50 fpm. The unit is available with or without side leaves or guard rails. Standard elevation is adjustable from 31 to 37 inches.

Circle 467 for more information

Lift Truck For Cable Reels

A new mechanical lift truck for handling cable reels weighing up to 1000 pounds is announced by Lewis-Shepard Products, Inc. The company states that it is an ideal truck for the small plant handling cable reels or as



an auxiliary unit in larger shops. The truck can handle reels from 17½ to 38 inches in diameter and up to 20 inches wide. A lift of 2 inches is obtained by pulling down on the handle; lowering is controlled by a foot pedal. In operation, a sliding hook on the lifting arm rides on a diagonally located tube; the hook, having a spring loaded clamp, can be properly positioned for reel size by sliding up and down on the tube.

Circle 468 for more information

8000 Pound Industrial Trailer

A new standard 8000-pound-capacity industrial trailer having a longer length with increased carrying area and an im-

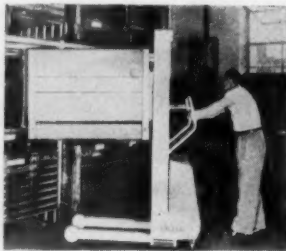


proved trailer hitch has been developed by The Yale & Towne Manufacturing Company. The trailer has a 128-inch, one-piece checkered steel plate and is available in platform widths of 38 inches and 48 inches. It features a simplified trailer hitch which is connected or disconnected on either end of the trailer by removing a single pin. The new model also has standard four-wheel steering. A sturdy oak platform is also available for the trailer.

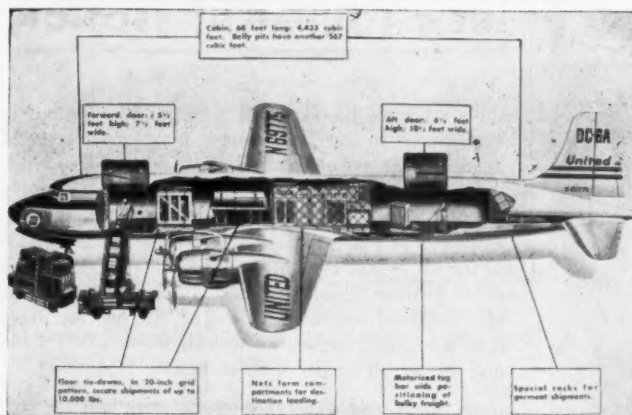
Circle 469 for more information

Telescoping Portable Lift Truck

A 1000 pound capacity, telescoping portable lift has been introduced by The Oster Manufacturing Company. The company states that the lift may be used as a straddle fork truck, a portable elevator, or a shop crane. Manually operated by one man, the unit fea-



Circle 470 for more information



SEVENTY PER CENT INCREASE in cargo-lift capacity is expected by United Air Lines with the addition of five new DC-6As this spring and summer. The five-mile-a-minute cargo carriers will fly coast-to-coast in less than half a day, thereby trimming hours off present Cargoliner schedules; this will even include an en-route stop. The Douglas built DC-6A's embody many advances over earlier models—these include improved lighting for night loading and unloading operations, twice the number of floor tie-downs, division of compartments, and special racks for garment shipments. With a cruising speed of 300 miles an hour, these planes can carry a payload of 30,000 pounds.

Circle No. 422 on Reader Service Card for more information

USE THE

**POWER TRUCK
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WITH FORKS
LEFT ON
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Simple, automatic, mechanical handling of any size or type of drum—single or multiple.



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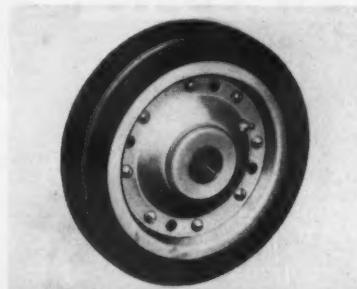
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APRIL, 1956

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Circle No. 58 on Reader Service Card

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Bond STA-CLEAN Caster Wheels are the first wheels designed and built to help you maintain the highest sanitary conditions in your plant. The smooth, even contour of Bond STA-CLEAN Caster Wheels means that flour, food particles and other materials "Keep Off"!

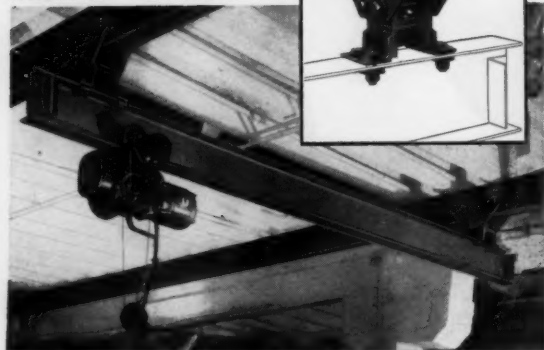
If you're in the bakery, candy or food processing business you'll want Bond STA-CLEAN Caster Wheels on your trucks. They're available for Bond 1-A, 36-A, 40-A and 41-A Series Casters in 4, 5 and 6 inch diameter sizes.

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LOW COST!**



Handle loads up to 2000 lbs., SAFELY,
easily... Buy crane beam locally—we
furnish the rest... A pair of self-aligning,
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BULLETIN F-103

The Abell-Howe
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overhead cranes,
monorails, hoists
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Circle 1 on Reader Service Card for more information
178

NEW EQUIPMENT SECTION

tures a battery powered full lift of 112 inches but has a collapsed height low enough for operation in low headroom areas such as rail cars and highway trucks. A retractable cord permits push-button control of the unit from the unit itself, or from the lift when it is employed as a portable elevator. Movement and control of the lift is easy even under load, since large diameter roller bearing wheels are used coupled with scientifically designed steering grips. The lift has an overall height of 78¼ inches, an overall width of 37 inches and an overall length of 52 inches.

Circle 471 for more information

Rotating Roll Clamp

A new 360 degree rotating roll clamp which handles rolls from 24 to 48 inches in diameter in any position is announced by Lewis-Shepard Products, Inc. The company states that with this clamp, rolls in a vertical position against a wall can be picked up and rolls in a horizontal position can be picked up when there is nothing solid behind them. This is accomplished by hydraulically operated arms, both movable but only one at a time. Chain and sprockets driven by a hydraulic motor makes possible the 360 degree rotation. All controls for the rotating roll are in the operator's cab except the selector valve which is on the clamp.

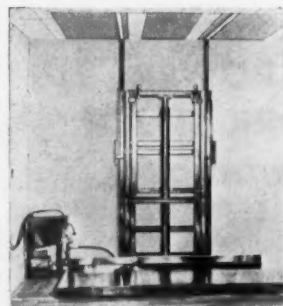
Circle 472 for more information



Floor-to-Floor Lift

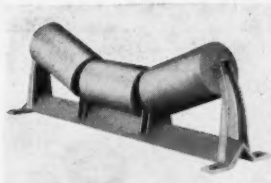
Savings in floor space and installation costs for moving heavy or bulky material from one floor to another can be realized with the new Florlift, states the Florlift Corporation. The unit works automatically and can do the job of a standard freight elevator. It is made of steel construction and has a deadweight capacity of 750 pounds. Automatic stops prevent over-running and the hydraulic circuit is mechanically locked in position should the power fail, thereby insuring greater safety. The unit comes in three parts and can be installed in one day. It operates on a 115 volt single-phase motor.

Circle 473 for more information



FLOW

New Ball Bearing Idler



The new Series 50 ball bearing belt conveyor idler, offering economic advantages in both original investment and operating power requirements, has been announced by Link-Belt Company. The idlers are new from base to ball bearings, and are available in both a greaseable type, with a "one shot" lubrication system serving all three rolls at once, and a factory sealed type requiring no greasing. The new idler rolls consist of thick outer shells plus heavy-wall steel center tubes brazed to dish-shaped steel heads. Other features of the Series 50 idlers include: better belt alignment, concentric construction, reduced reflection, rigid truss structure, and accurate roll alignment. The idlers are available for seven belt widths from 14 to 36 inches.

Circle 474 for more information

Heavy Duty Hand Truck

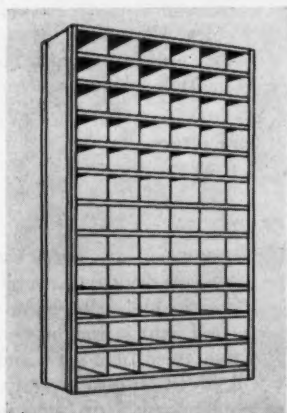


A new, heavy duty hand truck for commercial and light industrial use is now being marketed by Aaero Manufacturing Company. The truck features greater ease in handling of heavy loads up-and-down stairs and curbs; provides free rolling action, greater maneuverability, and long service life; and has wheels that are equipped with 1 1/4 inch

flat tread, puncture proof tubeless tires. The Aaero truck is 42 1/2 inches high and 14 1/2 inches wide, and has a heavy gauge steel nose plate 7 x 14 1/2 inches.

Circle 475 for more information

Small Parts Storage



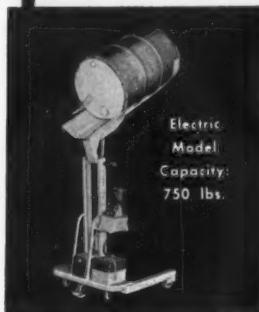
Widespread application for storage and display of parts or small bulk or packaged items can be had with Bay Bin Units, asserts the manufacturer, Bay Products, Inc. The bins contain adjustable dividers requiring no nuts, bolts or tools for adjustment; instead, Bay "Snap Ins" are used. Where dividers are not used, shelves are adjustable every 1 1/2 inch up and down.

Circle 476 for more information

Cut Handling Costs

WITH *Tubar*
LIFTING EQUIPMENT

Check Uhrden's versatile, low-cost **Tubar** line first. Each unit is job-designed to speed and streamline materials handling—and priced so reasonably that you can start to cut your flow costs right away. Write for complete, descriptive literature.*

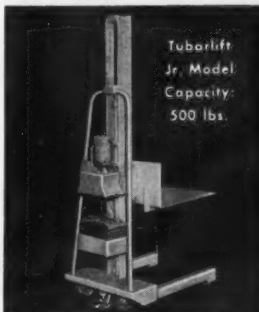


Tubar DUMPER

Low-cost, mobile, hydraulic unit designed to lift containers, move them, and transfer contents from one container to another. Manually operated or powered by 6-volt automotive battery. Floor locks on all models. Capacities: 750 to 1,500 lbs.

Tubar CRANE

Compactly designed to occupy far less floor space than other cranes of its capacity. Ideal for garages, shops, store rooms, and other applications where light weight, compactness, and versatility are required. Available with manual or electric power. Capacities: 1/2 thru 3 tons in 7 models.



Tubar LIFT

Hydraulic stacker, available in models with capacities from 500 thru 2,000 lbs. and lifting heights of 48", 60", 72", or 84". Also available in telescopic mast, lifting heights to 110". Choice of manual or electric power. Floor locks on all models.

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DENNISON, OHIO

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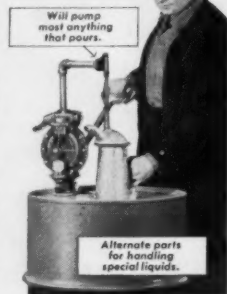
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Operating on both forward and backward strokes, these efficient pumps deliver 20 gallons per 100 strokes. Available with hose or spout outlets—also other interchangeable accessories. No plant should be without a battery of Tokheims.

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Circle 144 on Reader Service Card for more information
190

NEW EQUIPMENT SECTION

Hydraulic Utility Table

A newly designed, hydraulically-operated utility table of 1,000 pounds capacity has been developed by Rack Hydraulic Equipment Corporation. The table top is raised and lowered by means of a foot treadle, and has a maximum height of 44 inches. Due to variable working heights and 5 inch diameter caster wheels with roller bearings, the table is suitable for a variety of industrial applications, according to the manufacturer. Table dimensions are 20 x 26 inches. A safety valve prevents damage to the hydraulic unit and provides greater safety of operation.



Circle 477 for more information

Minimizes Pulley Slippage

A new rubber pulley lagging to solve the problem of pulley slippage on belt conveyors on steep slopes or under wet service conditions has been developed by Hewitt-Robins, Inc. To minimize slippage, thousands of diamond-shaped rubber grippers press against the underside of the conveyor belt; the action is said to be similar to the tread of snow and ice tires used on automobiles. The lagging is reinforced with two layers of heavy fabric on the back for added strength. Called "Maltese Cross Double Chevron Pulley Lagging", it comes in any width to fit all types of pulleys.

Circle 478 for more information

Electronic Can Sorter

Canners who run several grades of product through a cooker at one time will be able to use this marked can sorter. Manufacturer, Dudley Mfg. Corp. states that the unit separates cans as they are discharged from the cooker and sends them to multiple labeling and/or casing lines.

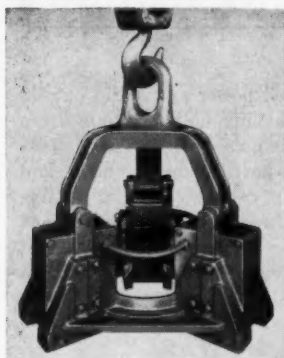
Circle 479 for more information

Stearate Drying Tray

The Molded Fiber Glass Tray Company states that it is producing the largest chemical drying tray ever molded for drying stearates. The tray has a high chemical resistance, is durable, safe and light in weight, and is made of a combination of reinforced fiber glass and polyester resins. The tray will not bend, dent or warp, and the corners are reinforced to retain their shape permanently in hard service.

Circle 480 for more information

Magnetic Coil Lifter



A new ultra-light-weight coil-lifting magnet is announced by The Ohio Electric Mfg. Co. According to the manufacturer, steel coils can be lifted without removing the spindle on which the coils are wound. The unit weighs 2000 pounds, has a lifting capacity of approximately 5 tons, handles coils of strip steel up to 42

inches in diameter, and is designed for operation on 230 volts d.c., with other voltages supplied on special order. The three lifting coils are made of heavy duty copper wire with glass insulation, and can be operated at all temperatures.

Circle 481 for more information

Portable Transistor Radiophones

A new line of transistorized portable two-way radiophones, delivering up to 20 times the conventional RF output, has been announced by Motorola's Communications and Electronics Division. Improved transistors, plated circuitry, and lightweight, long life power packs

Circle 203 on Reader Service Card for more information

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DRASTICALLY CUT COSTS OF ...

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Complete plant layouts
... standard or special
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equipment available. Over
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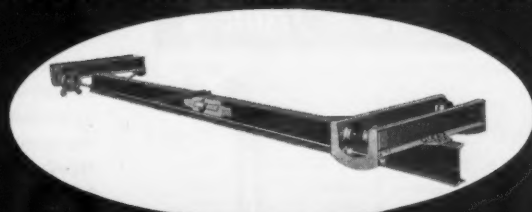
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Circle No. 154 on Reader Service Card
APRIL, 1956

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Save time, shipping and labor. Build this
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**CONCO UNDERHUNG AND TOP
RUNNING HAND GEARED CRANE ASSEMBLIES**

BUILD IT YOURSELF:

Packages include instructions, complete
parts except locally available I-beam and cross
shaft. Equip with Conco chain or electric hoist.
Write for Bulletins 2200 and 2300 and
name of local distributor.



CONCO ENGINEERING WORKS

Division of H. D. Coakley & Company, 88 Grove St., Medford, N.J.

Affiliates: Conco Engineering Works—Domestic Heating Equipment
Conco Building Products, Inc.—Brick, Tile, Stone



CONCO UNDERHUNG CRANE ASSEMBLY

Circle No. 52 on Reader Service Card for more information

Circle 189 on Reader Service Card for more information

REDUCE OPERATING COSTS up to 10%



NEW
3,000 TO 20,000-lb.
Capacity Units for:

**AUTOMATIC
BUDA
CLARK
GERLINGER
HYSTER
TOWMOTOR
YALE & TOWNE
BULL MOOSE
(Canadian
Mobile)**

See your lift truck
Dealer or Write:

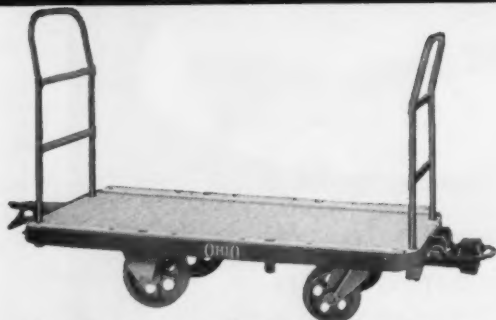
SAVE TIME—Swing and Shift the load to eliminate non-productive truck maneuvering.
SAVE SPACE—Swing and Shift the load instead of the truck in tight areas—use less aisle width.
REDUCE COSTS—Swing and Shift up to 14% more loads per day—speed carload-ing.
WITH SAFETY—Swing and Shift loads into precision alignment—stack higher, faster, safer.

Swing-Shift MFG. CO.

P.O. BOX 957—F
LONGVIEW, WASHINGTON

OHIO

Industrial Trucks & Trailers



One Piece Tee Section Steel Frame Trailers

No. 2001 size 36" wide x 72" long x 14" high—Two Ton Capacity with Automatic Coupler, Molded-On Tires and Hardwood Top.

Various Platform Sizes may be furnished.

Heavy Duty Trucks and Trailers to YOUR Specifications. Write for Detailed Information.

THE OHIO GALVANIZING & MFG. CO.
NILES .. Established 1902 .. OHIO

Circle 155 on Reader Service Card for more information
182

NEW EQUIPMENT SECTION

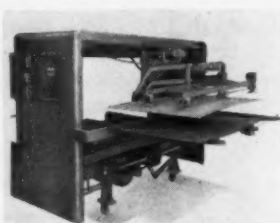
are responsible for increased power and audio output. The line features models having output ratings from 1 to 8 watts; sturdy aluminum cases; increased battery life; interchangeable power packs; reduced weight, and rechargeable nickel-cadmium cells. Included in the line are models in the 25-54 mc. and 144-174 mc. frequency range in both handset type microphone and speaker-palm type microphone versions.

Circle 482 for more information

Sheet Feeder For Stamping

A new Sheet Feeder has been added to the Hamilton Automation System line of automatic equipment designed for feeding, pulling, and positioning of parts at the die press in heavy metal stamping operations. The Sheet Feeder is a standard basic unit which feeds a single sheet of steel to a punch press . . . 100% automatically. It is capable of handling up to thirty steel sheets a minute, depending of course, on the size of the blank. It will take sizes ranging from a blank of 8 inches in diameter to a sheet of 48 by 144 inches. The feeder is self-contained and completely movable, and its controls can be interlocked with those of the presses or its sister units.

Circle 483 for more information



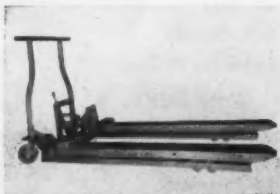
Pump For Varying Requirements

Widely varying demands in pumping requirements are being met by a manufacturer to pump material in abrasive suspension, states the Morris Machine Works; in addition, extended pump life to three times that of the previous method is expected. Capacities ranging from 300 GPM to 500 GPM per pump are being handled using 4 inch Type R Morris slurry pumps with Gyrol fluid drive. These pumps have a practical application in sand and gravel, mining, pulp and paper, and other fields where slurry pumps are being used. The Type R pumps handle a material of 1.3 specific gravity which contains sand and other sintered materials.

Circle 484 for more information

Foot Pedal Pallet Lift

A foot pedal lifting mechanism requiring only a few strokes for raising the forks to 5½ inch maximum lifting height has been developed by the Pallet Vault Corporation for

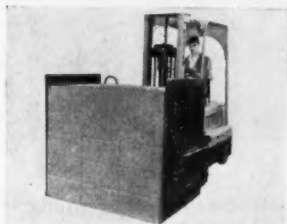


FLOW

its lift truck. Features of the improved lift are: loads are moved without swaying, tandem rear wheels prevent sticking in floor cracks or elevator crevices, operator vision increased, and necessary aisle space reduced. Standard type hydraulic jack simplifies maintenance. Lifting capacity is 2250 pounds, fork length is 54 inches and overall fork width is 30 inches.

Circle 485 for more information

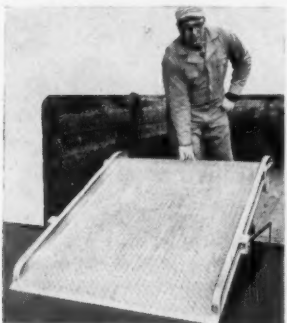
Handling Without Pallets



For rapid handling of cartons and packages without pallets, Hyster Company has introduced their new "Cart-N-Grab" for models UC 30 and YC 40, 3000 and 4000 pound capacity lift trucks. The unit will accommodate packages from 22 $\frac{1}{4}$ inches to 70 $\frac{3}{4}$ inches, holding the packages firmly and eliminating spillage or damage.

Circle 486 for more information

48 Sizes of Magnesium Dockboards



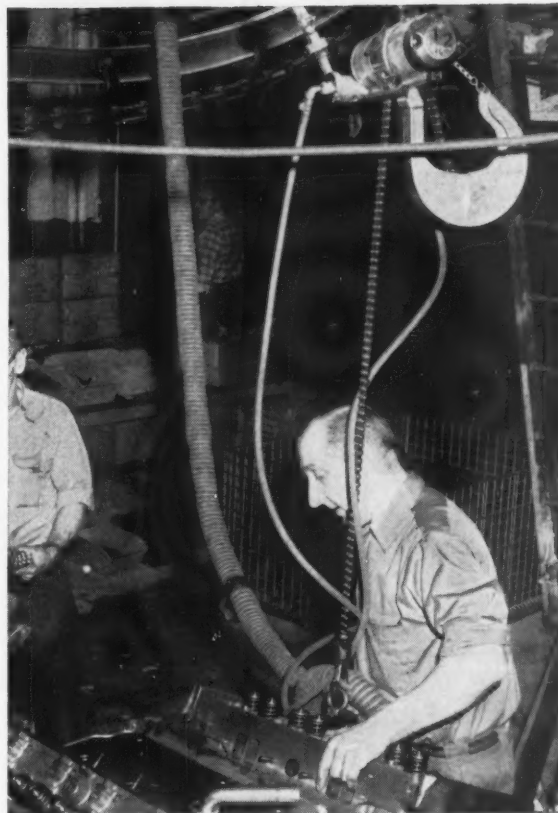
The standard magnesium dockboard line of Magline Inc. has been expanded to include lengths of 30 to 72 inches in widths 36, 42, 48 and 60 inches, comprising 48 standard sizes. The boards are said to combine bridge-design strength with extreme lightness for one-man handling. Boards are crowned to compensate for height differences between truck and dock level and can be reversed when a truck bed is lower than a dock. Slipping is prevented by a patented, automatic drop-lock which anchors the board in place.

Circle 487 for more information

Time-in-Process Recorder

Direct reading and recording of "time-in-process" for continuous ovens, furnaces, kilns, and lehrs is a new application for the General Electric Potentiometric Roundchart Recorder. It is used with a tachometer-generator connected to a conveyor belt drive, furnishing a signal proportionate to the conveyor speed; this signal is then converted and recorded as process time directly in minutes. This is accomplished by a slide wire coupled to the self-balancing potentiometric recorder.

Circle 488 for more information



1000-lb. hoist places cylinder head on engine. No burned-out motors to stall production.

KELLER TOOL AIR HOISTS make handling easy as it looks

Speed your handling jobs . . . in assembly, foundries, machine shops, shipping rooms — wherever dependable, controlled raising and lowering are needed.

CHECK THESE FEATURES BEFORE YOU BUY ANY HOIST

- **NO BURN-OUT** from overload or stalling.
- **LOW MAINTENANCE** — rugged piston-type motor unaffected by dust or fumes.
- **ECONOMICAL** — uses much less air than other hoists of same capacity.
- **CONTROLLED SPEED** — from creep to maximum.

Model	Capacity	Speed	Weight
86-2V20	2000 lb.	19 f.p.m.	78 lb.
86-2V20L*	2000 lb.	19 f.p.m.	78 lb.
86-2V10	1000 lb.	35 f.p.m.	78 lb.
86-1V10	1000 lb.	19 f.p.m.	28 lb.
86-1V10L*	1000 lb.	19 f.p.m.	28 lb.
86-1V5A	500 lb.	35 f.p.m.	28 lb.
86-1V3	300 lb.	80 f.p.m.	28 lb.

* Models with link chain

BULLETIN 86 gives specifications and data on attachments.

GARDNER - DENVER

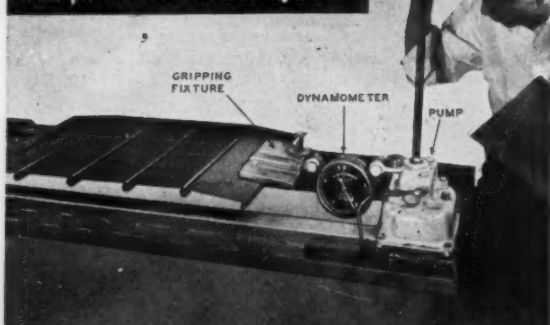
KELLER TOOL division, Grand Haven, Michigan

THE QUALITY LEADER IN COMPRESSORS, PUMPS, ROCK DRILLS AND AIR TOOLS FOR CONSTRUCTION, MINING, PETROLEUM AND GENERAL INDUSTRY

Circle 83 on Reader Service Card for more information

Circle No. 62 on Reader Service Card for more information

DILLON Dynamometer checking strength of joints between steel belt plates used in conveyors



Precision Built

Compact, 5" dial model measures only 8 1/4" x 6 1/4" x 3". Weighs 8 lbs. Fits into "tight" spots.

Accurate Dependable

MAKE SURE WITH A DILLON DYNAMOMETER

In actual field tests or in the lab., DILLON Dynamometers provide accurate test results. Measure static or moving loads instantly in conjunction with hoists, turnbuckles, air pistons, etc. 13 capacities from 0-500 lbs. up to 0-100,000 pounds. With max. pointer. WRITE FOR ILLUSTRATED LITERATURE.

W. C. DILLON and CO., Inc.

14624Q Keswick St., Van Nuys 8, Calif. (Suburb of Los Angeles)

Examples of a few typical circuit plans.

HERE'S HELP!

Patented SEALED-PIN CHAIN DESIGN keeps abrasives out—quadruples chain life.

Hapman TUBULAR CONVEYORS

Move almost any flowable material—wet or dry—through any plane or angle...

Make big savings! Move bulk materials automatically—up, down, through walls, around corners and obstacles with a Hapman! Circuits like these or complex layouts engineered to your needs. Usually a single drive unit serves where other conveyors need several. Design cuts costs. Dust and liquid tight!

WRITE for Circuit Bulletin and Catalog F-46

Hapman CONVEYORS, INC.
DIVISION HAPMAN-DUTTON COMPANY
KALAMAZOO MICHIGAN
In British Commonwealth & Europe: Fisher and Ludlow Ltd., Birmingham

Circle 100 on Reader Service Card for more information
184

NEW EQUIPMENT SECTION

Automatically-Fed Nail Driver

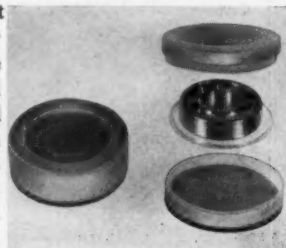
The "Nail-A-Matic", an automatically fed nail driver is said to result in time-study rates of 1/3 those of hand-nailing in crating operations. In construction of export containers for heavy machinery, where many nails are required, it is possible to drive fifty eight-penny nails per minute. It features quick cam-conversion of the feeder from one nail size to another, ability to handle all nail sizes from 2d to 16d and is mounted on ball-bearing rubber tire wheels for maximum ease in handling. Weight is 60 pounds; manufacturer is Matrix Engineering Corp.



Circle 489 for more information

Re-Usable Plastic Bearing Package

A shock-resistant plastic package for bearings, which can be mailed safely under all conditions and re-used indefinitely, has been developed by Cargo Packers, Inc. It is expected, by the manufacturer, to lower shipment and storage costs considerably, to permit easy inspection of bearings without destruction of the packaging contents to contamination.



Circle 490 for more information

Rubber Tired Switcher

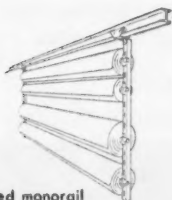
A new rubber tired switcher which can maneuver over city streets and deliver as much pull as a 50 ton conventional locomotive was put into service by the Pennsylvania Railroad. Called the "SwitchMobile", it was developed by LeTourneau-Westinghouse and designed in accordance with Interstate Commerce Commission safety regulations. It can travel from assignment to assignment without need of rails, and can handle switching operations in congested areas, thereby speeding the movement of cars, to industrial plants and shippers docks. Although it embodies many of the features found in railroad rolling stock, it maintains the maneuverability and utility of an automobile. The SwitchMobile is equipped with a



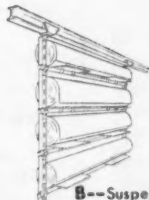
FLOW

12 WAYS TO HANDLE ROLLS

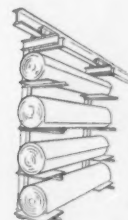
SELECT THE COST-SAVING METHOD WHICH MEETS YOUR NEED



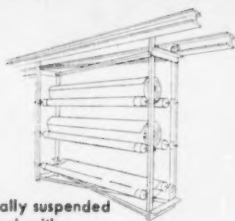
A—Suspended monorail rack with vertically adjustable spindles and supports.



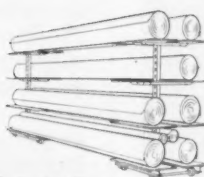
B—Suspended monorail rack with vertically adjustable spindles and pallet supports.



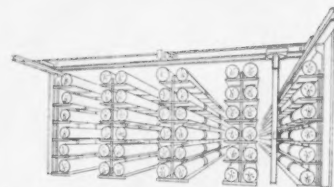
C—Suspended monorail rack with vertically adjustable pallet supports.



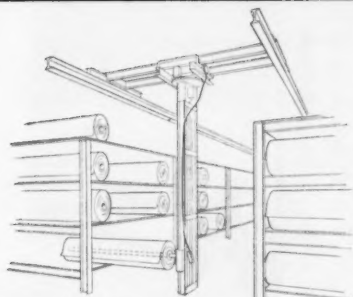
D—Vertically suspended monorail rack with rotating canvas belts for live storage.



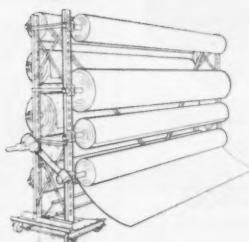
I—Mobile truck with vertically adjustable or fixed pallet supports. Manual or power driven.



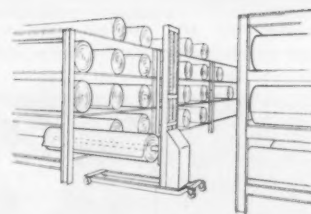
L—Free-standing cantilever pallet racks serviced by revolving fork lift suspended from overhead crane.



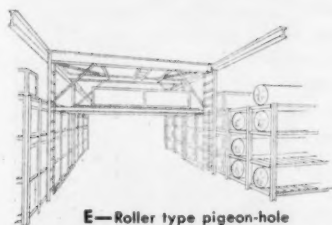
G—Shelving storage serviced by inserting a ram in the core of the roll. Ram suspended from overhead crane.



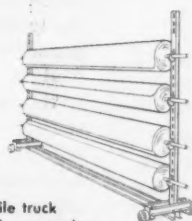
K—Mobile truck with double suspension and vertically adjustable spindle supports. Manual or power driven.



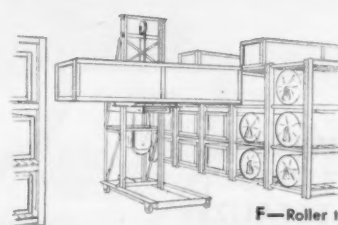
H—Shelving storage serviced by a ram-type truck.



E—Roller type pigeon-hole storage with elevating platform supported from overhead crane.



J—Mobile truck with single suspension and vertically adjustable spindle supports.



F—Roller type pigeon-hole storage serviced by fork lift with roller platform.

Consult the Specialists! We have broad experience in solving roll handling and storage problems, and have developed a number of simplified methods which have many patented features for handling practically any type of rolled material.

Phone, Wire or Write—a preliminary survey by our experienced technical men costs nothing—may save big money.

**FLOOR COVERING EQUIPMENT COMPANY DIVISION
CHICAGO TRAMRAIL CORPORATION** 1322 So. Kostner Ave. • Chicago 23, Illinois

Circle No. 55 on Reader Service Card for more information

Circle 46 on Reader Service Card for more information

HANDLING BULK MATERIALS?

"TAKE IT UP A FLO-TUBE"



To fill 3 or more hoppers use gate-valves in Flo-Tube horizontally. Below, filling 2 hoppers with "Y" chute.



The spiral conveyor of steady, dependable service. Sturdy cast iron trough bolts together in 3 ft. sections, capped with steel plates for easy removal if ever necessary. Built to take the abuse of coal, yet with tolerances just right to handle materials from grain size to lump.

Hopper level maintained by 'off-on' automatic switches. Exposed end for pick-up

CANTON STOKER CORP.

SPECIALISTS IN AUTOMATIC COAL FIRING,
HANDLING AND CONTROL EQUIPMENT
108 ANDREWS PLACE S.W., CANTON, OHIO

NEW EQUIPMENT SECTION

GM 208 horsepower diesel engine and measures only 10 feet 3 inches wide by 10 feet 13 inches high.

Circle 491 for more information

Low-Power Communications Units

Communications units which cover the frequency ranges of 25-54 Mc and 144-174 Mc are announced by Allen B. Du Mont Laboratories, Inc.

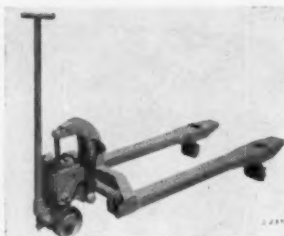


These self-contained units are compact and light, weighing 35 pounds and measuring 6 inches high, 8 1/4 inches wide and 16 1/2 inches long. The equipment is said to offer unusual advantages because maintenance problems are greatly reduced, low power creates economical operation, and simplified circuitry provides trouble-free service.

Circle 492 for more information

Reduced-Effort Hand Truck

A reduction of 25 percent in the manual effort required for hydraulic hand lift truck pallet handling operations is claimed by The Yale & Towne Manufacturing Company with its Model A, 2000-pound-capacity

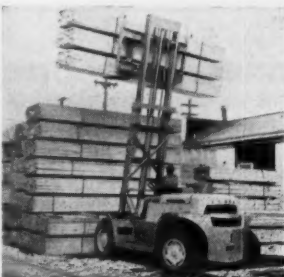


hand truck. Waste effort consumed in movement of cumbersome unloaded trucks has been eliminated by this truck's lightweight construction and increased maneuverability. Among the weight-saving features is the tubular steel frame which gives more strength per pound. Easy maneuverability both with and without load is gained through dual articulating steering wheels which provide easier steering as well as added stability on rough surfaces.

Circle 493 for more information

Heavy Duty Fork Truck

A new 15,000 pound capacity, dual drive, pneumatic-tired fork truck designed specifically for lumber handling and heavy outside work has been introduced by the Industrial Truck Division of Clark Equipment Company. The machine, called the YL-150 has a speed of 20 mph, 30 percent



**STOP
GUESSING
START
SAVING!**



\$55

TIME-RECORDER + TOTALIZER

gives complete production data continuously... automatically

Now get complete, accurate, documented production data on any machine, process, operation. Eliminates costly, inaccurate spot-checks, time studies.

TR+T records on continuous 4-month tape. Uses no ink. No maintenance. Thousands in use in large and small plants.

Write for brochure "H-4" and list of users.

STANDARD INSTRUMENT CORP.

DIVISION OF HEAT-TIMER CORPORATION
657 BROADWAY • NEW YORK 12, N. Y.



Chronologically records actual on-and-off time by duration.

Gives absolute time-study data per operation.

Establishes true cost accounting.

Permits supervision of parts replacement, repairs, maintenance.

Gives total operating time of machine, feed or belt-line.

Allows ability to anticipate equipment servicing.

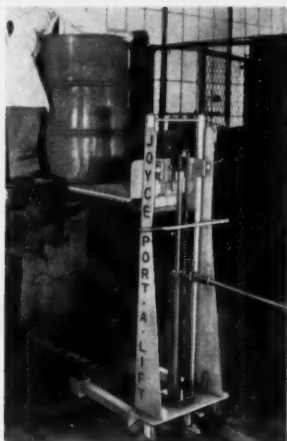
Circle 102 on Reader Service Card for more information
186

FLOW

gradeability, and a life speed of 50 feet per minute. The unit has a Hercules JXC gas engine of 282 cubic inch displacement, high speed power steering, and an outside turning radius of 160 inches. Uprights tilt six degree forward and ten degrees backward. Other features include synchromesh transmission, planetary drive axel, and hydraulic 16 by 4 power brakes. The YL-150 has a wheelbase of 112 inches, overall length of 169 inches (less forks) and an overall width of 96 inches.

Circle 494 for more information

Versatile Handling Unit



The Joyce-Gridland Company offers a new portable elevator intended to speed lifting, hauling, loading, and stacking operations in factories, warehouses, and stores. Called the Port-A-Lift, the unit can load and unload trucks, provide an adjustable, portable feed table for production machinery, and can be used as a service cart for retooling. Of light-weight welded steel construction, it has 5-

inch front wheels and castered rear wheels, which provide mobility and maneuverability. The equipment is powered by a Joyce Power Prince hydraulic jacking unit. A foot brake prevents the unit from moving while it is being loaded or unloaded.

Circle 495 for more information

Tote Box Handler



A combination lifting and transporting unit for handling tote boxes and other loads, is produced by the Economy Engineering Co. Called the Walkie-Worklifter, it enables one man to move and store loaded tote boxes weighing up to 1000 pounds in a fraction of the time formerly required by two-man

teams, asserts the manufacturer.

Circle 496 for more information

"Direct-Reading" Engine Hour Meter

A "direct-reading" meter has been added to the line of engine hour meters manufactured by John W. Hobbs Corporation. The meter is read in much the same way as the speedometer in an automobile. Black



For "Traffic Volume—Minimum Maintenance—Minimum Closing Time"

install RUBBAIR DOORS!

Tileston and Hollingsworth Company, one of New England's oldest and most famous papermakers, wrote us a letter, saying in part—

"The doors were installed in our Machine Room, where traffic moves twenty-four hours a day, six days a week. Trucks are continually smashing into the doors, as rolls are moved from the paper machines into the finishing area. The doors have given almost trouble-free operation since installation. The Rubbair Door operates faster than any other we have used."

Rubbair Doors speed handling, reduce repairs, protect loads wherever doors must be hung in an industrial operation.

Check these advantages:

- Improved insulation
- Reduced noise, industrial fatigue, injuries to personnel
- Protection from damage to trucks, pallets and loads
- Speedier handling of materials
- Greatly lowered maintenance costs

For complete information write Dept. F.

Stic-Klip® Rubbair Door Division
MANUFACTURING CO., INC.

58 Regent St., Cambridge 40, Mass.

Circle 186 on Reader Service Card for more information

NEW EQUIPMENT SECTION

figures show the total number of hours an engine has been operating; a red figure indicates tenths of hours. A rotating disc in the face of the meter acts as an operating indicator, making one revolution a minute. The meter registers up to 10,000 hours.

Circle 497 for more information

Magnetic Portable Conveyor



This portable magnetic power conveyor fits crowded areas between presses, carries metal parts quickly and safely at inclines up to 72 degrees says The Rapids-Standard Co., Inc. Magnetized bed attracts material to center of bed, eliminating need for guard rails. Uses include feeding bins of parts discharged from machine.

Circle 498 for more information

Hoist and Sling Safety Hook



A guard mounted on the outside of this safety hook, and completely covering the tip, prevents snagging on wires or other objects. A spring-actuated latch locks the guard in closed position,

and the guard can't open again until thumb pressure releases the latch. When the latch is released, the guard is wide open to permit full use of the hook until it is locked again in closed position. Manufactured by Coffing Hoist Division of Duff-Norton Company, the hook is made of dropped forged steel, heat treated and cadmium plated, and can be used on hand and electric hoists and slings.

Circle 499 for more information

Rear Dump Trailer



Model PR 15 rear dump trailer manufactured by Athey Products Corporation offers a capacity of 15.6 cubic yards. It features speeds up to 31.3 mph, right or left angle turns of 90 degrees,

and simply designed three-stage hydraulic hoists which tilt the body 60 degrees for quick, positive ejection of any materials. The body is all-welded into one sturdy unit built to handle rock or any other material.

Circle 500 for more information



BUILD IT YOURSELF!

180° SWINGING JIB CRANE WITH FAST ELECTRIC HOIST

Buy a 'Budgit' Swinging Bracket Jib Crane Assembly from your nearby "Shaw-Box" Distributor and get an I-beam locally. No machining or drilling. In an hour, you can assemble the jib with a wrench. Top and bottom brackets need not be accurately spaced, so you can install the assembly in 1/5 the time other jibs require. Then put a 'Budgit' Trolley and Electric Hoist on the I-beam along with several 'Budgit' Conductor Trolleys. Result: a work-saving 180° swinging jib at low cost.

Packaged 'Budgit' Bridge and Jib Crane Assemblies include all but beam or beam and shaft. Numerous types and capacities at your "Shaw-Box" Distributor's store. See them or write us for bulletins on 'Budgit' Crane Assemblies and other 'Budgit' products.

AS LOW AS
\$295²⁰
FOB Factory



'Budgit'® CRANE ASSEMBLIES

MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN

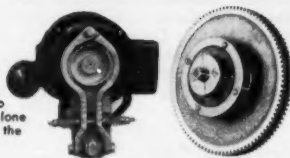
Builders of "Shaw-Box" and "Load Lifter" Cranes, "Budgit" and "Load Lifter" Hoists and other lifting specialties. Makers of "Ashcroft" Gauges, "Hancock" Valves, "Consolidated" Safety and Relief Valves, "American" and "American-Microsen" Industrial Instruments, and Aircraft Products.

Circle 136 on Reader Service Card for more information
FLOW

**LIFTS FAST
LIFTS SAFELY
SAVES MONEY**



Either of these two brakes alone can hold the full load



You always get that kind of performance from the 'Budgit' Electric Hoist. It speeds heavy lifting between processing operations, so more units can be turned out per day. Its two powerful, automatic brakes act together—assure "hair-line" starts and stops to position parts in machines or for assembly. The load hook cannot overtravel because safety stops set the brakes. Yes, the 'Budgit' is extra strong and extra safe. Man, load and hoist are protected.

The money-saving 'Budgit' Electric Hoist is portable—hang up, plug in and operate! Capacities: 250 to 4000 lbs. AC and DC models. \$139 up. Call your Shaw-Box Distributor for details or ask us for Bulletin 391.



'BUDGIT' CONDUCTOR CORD TROLLEYS are available for 1-beam installation to keep flexible electric cord up and away from work and worker. Roll smoothly around curves, through switches.



'Budgit' ELECTRIC HOISTS

MAXWELL
MANNING
TRADE MARK

MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN
Builders of "SHAW-BOX" and "LOAD LIFTER" Cranes, "BUDGIT" and "LOAD LIFTER" Hoists and other lifting specialties. Makers of "ASH-CROFT" Gauges, "HANCOCK" Valves, "CONSOLIDATED" Safety and Relief Valves, "AMERICAN" and "AMERICAN-MICROSE" Industrial Instruments, and Aircraft Products.

Circle No. 137 on Reader Service Card
APRIL, 1956

**CLASSIFIED
ADVERTISING**

**Used Equipment—Men—Jobs—
Lines**

FOR SALE

66 used Clark semi-live skids 36-inch by 60-inch with 9-inch steel wheels and 23 L156 hand lift jacks. Write P. O. Box 1996, Oklahoma City, Okla.

DEALERS WANTED

MATERIALS-HANDLING DISTRIBUTORS: for standardized products including hand and electric skid and pallet lift trucks, electric and gas-electric fork trucks, tractors, freight trucks, tier-lift trucks, low-cost all-steel floor trucks, skids and semi-skids, barrel, pallet and skid racks. Write **MARKET FORGE COMPANY**, Everett 49, Mass., for information.

MATERIAL HANDLING DISTRIBUTORS established and with a following to sell large line of standard and special built conveyors and bucket elevators, vibrating screens, crushers, feeders, gear reducers, belting, and motors.

BONDED SCALE & MACHINE CO.
2298 South Third Street, COLUMBUS, Ohio.

Circle No. 187 on Reader Service Card



**RUBBER ROLLERS
FOR
CONVEYORS**

- Provide Cushioned, Scratch Free Rides
- Suitable For Finished Stampings, Glass, Plexiglass, Etc.
- Used For Die Lifters, Hydromatic Welders, Gravity Roll Conveyors, Etc.

FIVE MODELS — THREE DENSITIES
4" DIA.—2" WIDE 2 1/2" DIA.—2" WIDE

**DUAL BALL BEARING ALLOY AXLE—
SELF LOCKING NUT
ALL PARTS INTERCHANGEABLE**

WRITE FOR FURTHER INFORMATION

STILSON TOOL, INC.

30229 GROESBECK HWY.
Ph. Prescott 8-2010, Roseville, Mich.

Compact POWER

**To Move
MORE, FASTER...
It's WISCONSIN-
POWERED**



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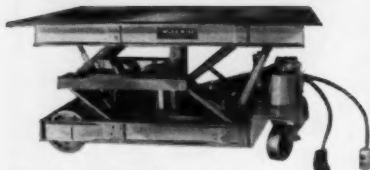
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APRIL, 1956

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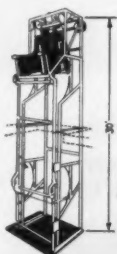
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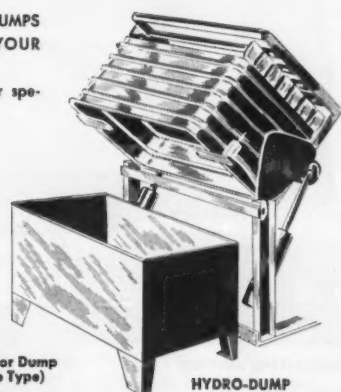
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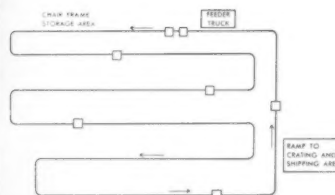
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NOELTING



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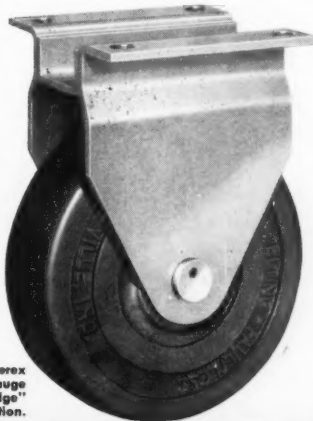
Here is the Faultless way for any plant to control costs and increase sales. In this case, chair frames and upholstering materials start at a given point and arrive at the crating area precisely as timed. Faultless Industrial Casters keep the all-steel trucks moving without interruption. Trucks are attached to a continuous under-floor chain drive that automatically flows through an entire series of work stations . . . maintaining predetermined costs . . . providing the sales department with quicker deliveries and competitive prices.

1100 Series Swivel Plate Caster shown with Ruberex Wheel. Cut away shows two full rows of hardened ball bearings in lubricated, dust-proof, hardened raceways.



This operation at Lenoir Chair Co. is typical of thousands of Faultless Caster handling operations. Faultless 1100 Series Swivel and 1700 Series Rigid Plate Casters are ideal for light-medium duty operations such as this one, where dependability of equipment is extremely important. Thread guards on each caster prevent winding of textile ravelings around wheel axles and assure hour-after-hour uninterrupted operation. Faultless cushion Tread Ruberex Wheels assure quiet operation and the plant's smooth cement floors are protected against wearing and chipping.

1700 Series Rigid Type Caster with Ruberex Wheel. Horn, consisting of two heavy gauge steel side members and welded "Bridge" member, is especially strong construction.



Here, again, a prominent manufacturer of fine products employs dependable Faultless Casters throughout a complete production line system. As a result, the Lenoir Chair Company, Upholstering Division of Broyhill Furniture Factories, has enjoyed a considerable increase in the numbers of units processed per day in this plant. This efficient system is based upon the use of 3' x 3' all-steel trucks pulled around a 1200 ft. cycle of work areas by a continuous under-floor chain. Faultless Double Ball Bearing 1121-4TG Swivel, and 1721-4TG Rigid Plate Casters are standard equipment on the trucks. The resulting improvement in production schedules of chairs and sofas,

and the reduction in man-hours per unit have been considered remarkably successful. Faultless 1100 Series Casters have a king bolt micrometer adjustment of swivel raceways to suit individual conditions. Hardened and polished ball bearings and large diameter hardened raceways that are factory lubricated, assure friction-free movement and long life.

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